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THE
Journal of Home Economics

**For those interested in Homemaking, Institution Management,
and Educational Work in Home Economics**

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A MASSACHUSETTS CANNING SCHOOL (See page 27)

THE Journal of Home Economics

VOL. IX

JANUARY, 1917

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THE DEVELOPMENT OF HOME ECONOMICS

ISABEL BEVIER

Director of Household Science, University of Illinois

In the JOURNAL for October, 1911, a memorial number for Mrs. Ellen H. Richards, there is a review of the development of Home Economics in the United States. It is the purpose of this article to give some idea of the progress of the subject in the United States since that time.

As will be seen by reference to the article mentioned, by 1911 Home Economics was at least on trial in quite a variety of organizations and institutions. It was included in the curriculum of many public and private schools, practically all of the state universities and Land Grant colleges, and in many endowed institutions. Women's clubs, Young Women's Christian Associations, and many philanthropic organizations had sought its aid in their work.

Owing to the fact that the agricultural colleges had put emphasis upon the scientific phases of the work, the term "scientific" was perhaps a little over-worked at that time, and led the housekeeper to announce that she did not know anything about science, but she *could* cook.

A study of the JOURNAL for the past five years gives one the impression that this period has been one of steady growth and adaptation of Home Economics to a great many types of work and also that there has been an attempt at standardization, not only of the subject matter to be taught, but also of the methods of teaching it. For example, a differentiation of high school from college work was easily made on the use of the word, "scientific." It was evident that while it was possible in college courses to have a strong basis of science, such a plan

was quite impossible in the high school, in so far as the content of the course was concerned. There the term, "scientific," referred to the method to be used. The part upon which emphasis could be placed for the student was careful manipulation, cost, and the digestion of food connected with the student's knowledge of physiology. The reaction from the overworking of the term, "scientific", led to undue emphasis upon the word, "practical", as though the two terms must of necessity be opposing ones, and great stress was placed upon the so-called "practical courses" with emphasis upon skill in manipulation, the cost and quality of the finished product, and this "practice" idea was aided by the establishment later of the practice houses or apartments as a feature of the work.

The criticism of these houses is: first, that the standard of living is too costly, both as regards time and money expended; second, that so many students do the work that no one individual is responsible for any part of the result; third, that conditions are so abnormal that the practice housekeeping has little value. Notwithstanding the criticism, the first experimental house, which was at the University of Illinois, 1908, has been followed by many others, notably, Rock Hill, South Carolina; Denton, Texas; Pratt Institute; Wisconsin; Cornell; and Mississippi State College for Women; and some form of practice housekeeping is offered now in most institutions.

The same idea emphasized household management courses as part of the preparation of the manager of an institution. All these are but indications of the public appreciation of the breadth of the subject and the recognition of its ability to help in the solution of the problems of daily life. Gradually the public conception grew to the realization that Home Economics meant not only selection and preparation of food, but that its goal was really the improvement of the home. Accordingly, one finds in the literature pleas for courses on the home, notices of special courses offered for homemakers, and suggestions for the study of the family and for art in the home.

Home Economics did not escape that watchword, "efficiency," and the promoters of scientific management found a wide field for effort in the haphazard business of housekeeping. This realization that Home Economics was working for the home, and seeking to enable the woman to see the home in its larger aspects and her part and place in it, led very naturally to emphasis on the economic questions involved in home management and furnishing, and the words "division of income"

and "family budgets" were added to the vocabulary of Home Economics. Any serious study of the home, its processes and products, disclosed at once the fact that many questions concerning time-honored practices could not be answered, and pointed very clearly to the need for research, and so that phase of the subject received attention. Home Economics had profited greatly by the research in the problems of nutrition, but it began to be realized that many of the questions concerning household processes were most likely to be solved by women; witness the answer to the question, "What makes jelly jell?"

While the homemaker was especially interested in the food problem within the home, the social worker, the teacher, and the physician were working at the problem of food for the child in school, and thus a new impetus was given to the study of that very important question, the feeding of school children. School boards took up this question and provision was made in many school buildings for the serving of lunches under the direction of the teacher of Home Economics and as a part of her regular duties.

Once this connection between food and health was recognized, many new lines of work were suggested, such as the housing problem, and the clothing question. Indeed, a new profession was opened to women, viz., that of the dietitian. Ordinary people began to understand that the term, "diet," was not confined to the sick room. This change in public sentiment led to courses for the training of people who should understand how to feed both the well and the sick, the child and the adult, and courses for the training of dietitians, as well as for lunch-room manager, were added to the curriculum, and the terms, "standard diet" and "basal ration" came into general use.

It was in the year 1912 that the American Home Economics Association gave proof of the development of the subject within its own ranks by the publication of *The Syllabus of Home Economics*. This syllabus represented the work of a committee for more than two years. Its purpose as stated in the syllabus is "to classify in logical order the various topics which can properly be included under the term, 'Home Economics.'" One proof of growth in the conception of the subject is shown by the fact that a fourth division, household and institution management, was added to the three original ones, food, clothing, and shelter, showing the gain in appreciation of the social significance of the work. In connection with this idea of the social value of the work, one can offer as proof the specific work of the government for

one class of people. While not officially connected with Home Economics, it is so closely allied with it as to warrant consideration.

Reference is made to the questionnaire on Home and Woman sent out October, 1913, by Secretary Houston of the Department of Agriculture. The point of view of the Secretary is given in the following quotations:

THE WOMAN ON THE FARM

The woman on the farm is a most important economic factor in agriculture. Her domestic work undoubtedly has a direct bearing on the efficiency of the field workers, her handling of the home and its surroundings contributes to the cash intake, and, in addition, hers is largely the responsibility for contributing the social and other features which make farm life satisfactory and pleasurable. On her rests largely the moral and mental development of the children, and on her attitude depends in great part the important question of whether the succeeding generation will continue to farm or will seek the allurements of life in the cities.

HOME MANAGEMENT

The department believes that intelligent help to women in matters of home management will contribute directly to the agricultural success of the farm. It purposes, therefore, to ask Congress for means and authority to make more complete studies of domestic conditions on the farm, to experiment with labor-saving devices and methods, and to study completely the question of practical sanitation and hygienic protection for the farm family.

The farmer's wife rarely has access to the cities where labor-saving devices are on competitive exhibit, nor does she often meet with other women who are trying these devices and gain from them first hand information. It seems important, therefore, that the department, coöperating with the proper state institutions, should be ready to give the farm home practical advice. Some work has already been accomplished in studying the problems of nutrition and advising the women in the country as to the economical use of various foods and methods of using these foods to obtain variety in diet. Apparently there is need also for advice on general diets that will be healthful and varied, because the farm home usually has but a limited number of foods at its disposal and has not the opportunity to add novelties to the diet, such as the city woman finds in her convenient store.

Such a serious attempt on the part of the government to find out actual living conditions among farm women was most encouraging proof of the fact that Home Economics was making for itself a large place in the thoughts of the people.

It was in this year, too, that the United States Government, through another great department, made a contribution to the work of Home Economics by its recognition of the claims of mother and child in the work of the Children's Bureau.

The year 1914 affords substantial proof of the possibility and desirability of combining some phases of Home Economics with many forms of social work. Types of these combinations are visiting housekeepers, work with settlements, such as the connection made between Simmons College and the settlements of Boston, the housekeeping centers of many cities, and the food work done in connection with the social welfare work of many manufacturing plants. Mention must be made, also, of the excellent work in Home Economics by the National Federation of Women's Clubs under the skillful guidance of Miss Helen Louise Johnson.

It was in this year, too, that additional proof of interest in and appreciation of the value of Home Economics was shown by another great branch of the government, the United States Bureau of Education, by the publication of a series of bulletins on Education for the Home. The reasons for such a publication are given in part by the following quotation:

For most people the home is the beginning and end of life. All their activities proceed from it and return to it. Therefore, of all the arts those pertaining to homemaking are the most important and of all the sciences those which find their application in the home, making us intelligent about the home and its needs, are the most significant.

If the schools are to assist in making us intelligent about the life we live and the work we do, they must provide liberally for instruction in these arts and sciences. Within the last two or three decades, educators and people generally have become conscious of this fact as never before, and gradually the schools are being readjusted to meet the new demands. Probably they have never undertaken a more important or difficult task, and there is constant need for information in regard to methods adopted and results obtained.

Home Economics has official recognition for the first time in this year by taking its place beside Agriculture in the published list of the workers in "Agriculture and Home Economics" in the Department of Agriculture. The word, "extension," is written large in the records of this year, which find an appropriate climax in the passage of the Smith-Lever Act in May, 1914.

The year 1915 stands quite alone as a banner year for Home Economics because of the important legislation of the United States government concerning it. While the Smith-Lever Bill was signed by the President in May, 1914, the plans for its administration were not completed until 1915. This bill is distinguished, not only by the fact that it is the first specific legislation for the home by the Federal Government, but also by the magnitude of the resources it makes available. No single legislative act has brought to Home Economics either so great opportunities or such serious obligations.

The Smith-Lever Act makes provision for "coöperative agricultural extension work which shall consist of the giving of instruction and practical demonstrations in Agriculture and Home Economics to persons not attending nor resident in the agricultural college." In the plans for the administration of this bill, the States Relations Service was organized under the leadership of that friend of Home Economics, Dr. A. C. True, who has for so many years aided in the development of the subject through the publications of the Office of Experiment Stations, and as a member of the committee on nomenclature of the American Home Economics Association. The scope of the work previously included in nutrition investigations was extended to include studies of clothing, household equipment, and household labor, thus constituting the Office of Home Economics under the able guidance of Dr. C. F. Langworthy, for a long time identified with work in Home Economics.

This year was further signalized by another very important event in another department of the United States government, viz., the Bureau of Education, by the appointment of two specialists in Home Economics, Mrs. Henrietta Calvin and Miss Carrie M. Lyford.

There is yet a third feature of legislation, which, while it has not materialized, is significant of the trend of the times. This idea found expression in the Smith-Hughes Bill of the last two Congresses. "This bill would provide Federal aid to coöperate with the various states in the maintenance and support of vocational schools of Agriculture and Home Economics and the trades and industries for persons fourteen years of age and over, and in the maintenance and support of schools for training teachers for the vocational subjects in these vocational schools." The vocational school seems at present the phase most in the public eye. What can Home Economics do for it? What will it do for Home Economics? Both questions are as yet unanswered. To some it seems certain that the vocational school will revise very

greatly the methods of teaching Home Economics. To others there seems some danger that Home Economics in the vocational school shall be judged solely by its power to produce commercial products.

Yet another bill is indicative of the thoughts of some of the people and their desire to promote research in Home Economics. This is known as the Smoot Bill, which would provide Federal aid for research or experimentation in Home Economics at the Experiment Stations of the Land Grant Colleges.

If the JOURNAL may be taken as an index of the spirit and achievements of the work of Home Economics, it would appear that the art side has not been in the public mind as much as the other phases of the work. That condition might be explained on the old theory that the necessities of life, such as food, clothing, and shelter, must be met first, but surely the newer conception of life recognizes that beauty is an essential factor of all right living, and imposes upon every individual the responsibility to make some contribution to the beauty of life.

Thus it appears that in the past five years Home Economics has done much intensive work in classifying and arranging its material, in separating essentials from non-essentials, in improving the methods of presentation, and in interpreting the aim and scope of its work. It has been interested in the home, the school, and that larger field outside the home. It has done much to improve child life, both through its own agencies and in connection with other agencies. It has been found useful by the social worker, the teacher, the philanthropist, and the statesman. It has influenced the private home, the public press, and legislation. It has lived up to its motto, "For those interested in Home-making, Institution Management, and Educational Work in Home Economics." May it go forward and deeper with a brave heart.

FINANCING THE HOME DEMONSTRATION WORK¹

D. W. WORKING

Agriculturist, United States Department of Agriculture

With a man's lack of imagination, I am thinking of the home demonstration work somewhat as I have learned to think of the demonstration work which the county agricultural agents are doing. Most of my experience with the activities of these men has been in the Western States. However, as I have seen them at work in both New York and Massachusetts, and have been closely associated with the administration of the county demonstration work during the past four years, I may venture to assume a reasonable familiarity with the county agent movement as it has been developing in the North and West.

What is the idea beneath the movement of which the county agricultural agent is the expression? What is the motive behind his work? What is the method by which he has been able in the short period of four years to establish himself as a necessary institution in more than four hundred counties in the North and West?

You know the idea; but you will let me state it in my own words as an aid to our present thinking. The idea includes a man trained in agriculture, and with the demonstrating gift, stationed permanently in that universal American governmental unit, the county, as the public leader and teacher of the economics of agriculture. The idea includes more than this; but, at bottom, it is to make the business of the individual farmer more profitable; to bring individual farmers into associated groups in order that they may work together to help each other to make their business more efficient. Of course this means study and coöperation on the part of farmers. Because we have learned that the mature man already established in business can not be taught by the ordinary methods of the schools, it means that the farmer must be taught by the demonstration method—that is, that an idea and a plan shall be set forth so clearly that the farmer will be induced to believe in the soundness of the idea and in the workability of the plan on his farm under his circumstances—to believe it so firmly as to be willing to do the work throughout a season, or a year, or more than a year in order to make the demonstration complete. For, let us clearly under-

¹ Presented at the Ninth Annual Meeting of the American Home Economics Association, Ithaca, 1916.

stand that the new sort of demonstration is not a demonstration until the demonstrator-teacher has convinced the demonstrator-farmer by the latter's actual experience that the idea is sound and that the plan has worked in the particular place for which it was recommended. The farmer may think the idea is sound and that the plan fits when it is presented to him, but he does not know that these things are so until he has tested his own understanding of them through demonstration on his own farm.

I have indicated that the motive in this work is that of profit—a more efficient and therefore a more profitable agriculture. I need not discuss the methods by which the county agent wins his farmers into active coöperation in demonstration work; for I have purposed merely to indicate the idea underlying the movement for demonstration work in agriculture in order to carry it across into the field of home economics; then to suggest a certain line of thinking in regard to home economics demonstration work, and to indicate a method of financing the workers who shall be to the women of the farms what the county agents are to the men of the farms.

It seems certain that we are to have in home economics a group of women workers comparable to the county agricultural agents. It is, therefore, pertinent to ask how they shall be supported in their work. If they are to work to good advantage, they will need to be well supported. We have seen a good many mistakes in the course of our experience with demonstration work. It has been easy in many cases to start the work on promises of private support. Commercial organizations of various kinds have been quick to recognize the value of the movement and to provide funds to establish county agriculturists within the fields of their activities. But at the outset few of them looked far enough into the future to realize that a public service is not really established until it is established fairly and frankly on a foundation of public support. Organizations of farmers were almost as prompt to offer their support when they realized the meaning of the work. Both classes of organizations found that it was much more difficult to provide funds than to promise them; they often found themselves less willing to promise financial support for the second year than for the first.

Probably the one sufficient reason for the difficulty of supporting county agent work on private contributions from commercial and other organizations and individuals had its roots in the fact that the work is fundamentally a public service and ought therefore to be established

frankly on a firm basis of public support. In most cases the county agents from the first were supported in part on public funds contributed by the United States Department of Agriculture. We used to say to chambers of commerce and similar organizations that we were able to promise a certain sum—say \$1200 a year—for the support of a county agent if the remainder of the fund needed to finance the work could be otherwise provided. In many cases the county government was immediately prevailed upon to provide an appropriation to match the amount we offered; in other cases the chamber of commerce promised to provide all or a portion of the fund needed. In these and other ways the work got started, but in nearly all cases with a definite assurance that approximately half of the necessary money would come from the public purse, national or county or both. Soon the agricultural colleges became aware of the fact that they needed to be in the work. In my own early personal experience I found the colleges willing to contribute to the cost of supervision; later to help in paying the salary of the demonstrator; and now they are almost unanimous in the belief that the county agent work belongs to the agricultural college as a part of the machinery for doing its work. The colleges have also recognized the fact that the work seems to be most successful when it has a considerable local contribution for its financial support and management. In other words, the college men have learned or are learning what we of the Department of Agriculture are learning, namely, that the professional agriculturist can accomplish much more for the increase of agricultural knowledge and the improvement of agricultural practices when he works in frank coöperation with farmers than when he merely works for them.

While the county agent work was getting established throughout the North and West and while the Department of Agriculture was learning that more could be accomplished by working with individual farmers than by any method previously used, the Smith-Lever Act was passed; and under its provisions we suddenly found ourselves compelled by law, and a liberal increasing appropriation, to work in partnership—that is, coöperative agricultural extension work was actually thrust upon the colleges and the Department of Agriculture. And now we are realizing with new force and a deeper insight that this coöperative agricultural extension work includes home economics. We ought to have understood from the beginning. Thus the problem now is how to accomplish the entire task assigned to us by Congress and the state

legislatures, not merely half of it. It is proper, therefore, for a man to suggest to workers in home economics that it may be worth while to consider the advisability of adopting at the beginning of your woman county agent work the best method we have been able to develop in financing demonstration work through men county agents.

Of course, with the experience of many women's organizations for your background, you may find it better to organize a women's home economics bureau with a membership fee, and with plans for soliciting additional funds to support the County Home Demonstration Agent. Some one may be ambitious to propose a Home Economics Tag Day. My personal ambition is to see the home economics demonstration work established on a basis of definite public support; otherwise people will be asking the meaning of home economics, and following their first question by asking if it is good policy to build an economic structure on a non-economic foundation.

For reasons which need not be discussed at this time, much of the work being done for women and by women has been conducted on a non-economic basis. You need not be told how groups of women have organized "sales" to raise funds for certain worthy purposes and have been wonderfully successful in selling articles of doubtful utility for high prices to kind-hearted or gullible men. I suspect that some of you could be induced to believe that women are discriminated against by employers; that they receive less pay for a given amount of work than men; and that the tendency is to vote an appropriation to support work intended to benefit men and to pass the hat or get up an entertainment to secure money to half-support work intended to benefit women. If there has been such a tendency we are getting away from it. That the work of the women home demonstration agents is as fairly entitled to adequate public support as that of the men demonstration agents is a fact that the public mind is ready to accept. Indeed, as most of you know, a number of county home demonstrators are already being supported by funds arising under the provisions of the Smith-Lever Act, the direct appropriation to the United States Department of Agriculture for demonstration work, and county appropriations.

It seems that we might well agree that the experience of those who have organized and are conducting the demonstration work being carried on chiefly by the county agricultural agents has been sufficient to justify us in believing that the home demonstration work can and should be frankly and adequately supported from the very beginning

as a public service and out of public funds. The work that has been done already points to a repetition of the success of the county agent work, which seems to be more than justifying the expenditure of the public funds thus far used. It is a wise use of public resources to promote economic efficiency on the farms through the activities of trained men teaching farmers by demonstration methods the most approved farm and business practices—such practices as result in greater net gains to individual farmers and the production of increased wealth for the entire country. If we are able, as we are, to justify the expenditure of millions in order to increase economic efficiency on the farms of the United States, can we doubt that it will soon be possible to show that it is also the policy of wisdom to provide other millions in order to increase the economic efficiency of the millions of workers in American farm homes?

A considerable share of the funds arising under the Smith-Lever Act is now being used in home economics extension work; most of this, however, is in support of workers who extend their activities over entire states. Of course, this is an effective way to do extension teaching; but it seems to be less effective than that of equally capable teachers who work within the limits of restricted areas. The county seems to be a large enough unit for intensive demonstration work. The county home demonstration agent is able to get acquainted and to maintain an acquaintance. Within a county the demonstrator can plan her work with a reasonable expectation of being able to continue it until a definite advance has been made. We have had and still have too much touch-and-go in our extension methods. It is time that we should be planning definitely to make our work continuous; time that we should develop systematic courses of instruction; time that it should be possible to recognize definite progress in the advances made by those who are expected to be the beneficiaries of our extension teaching. The county agent seems to be about the only extension worker with a field small enough to make it probable that we may have this kind of continuing work with measurable progress.

I am wondering if this Association might not do well to give its attention to this matter of effectiveness in coöperative extension work; if it might not be well for you to consider the advisability of expressing yourselves as favorable to definite organization in home economics extension teaching; if it might not be well for you to consider whether it is not time to make a declaration in favor of stressing the importance

of devoting special attention to county home demonstration work. Should it seem to you advisable to make special efforts to promote the development of county home demonstration teaching by means of trained workers in home economics, you can make effective use of the success of the county agent movement by advocating a similar movement and organization for the country women who ought to receive a fair share of the benefits intended by the Smith-Lever Act.

As the problem of financing the home demonstration work presents itself in the light of the considerations already set forth or suggested, it seems that we are already at the beginning of a public service for rural women—a service authorized by the Smith-Lever Act. It seems also that the home demonstration work should be regarded as coöperative in the broadest way, both in financial support and in management. This would mean that the Federal Government, under the provisions of the Smith-Lever Act and acts making direct appropriations to the U. S. Department of Agriculture, should provide a portion of the funds; that the states, in supplementing the financial support provided by Congress and by other appropriations for extension teaching, should provide an equal share of the necessary money; and that counties also should contribute to the support of this work, just as many of them are now contributing to the support of county agent work. By allotments from their own funds, by providing the services of their specialists, by conducting investigational work, and by the sympathetic and intelligent administrative supervision of extension directors, and the direct leadership of State Home Demonstration Agents coöperating with the U. S. Department of Agriculture, the agricultural colleges can give this work a unity of motive and method, while local farm bureaus and associations of farm women serve to keep the work responsive to the immediate need of the country homes that should receive the benefits of this great public service furnished by County, State, and Nation.

THE NEW FEEDING IN THE TREATMENT OF TYPHOID FEVER

ALICE CLORINDA WALTON

Formerly Dietitian Albany Hospital, Albany, N. Y.

Looking into the records of febrile diseases, we see that one of the prominent questions has been "Shall we feed fever patients, and if so, what foods shall we use?" In fevers, toxic products act upon the hunger centers of the brain, causing loss of appetite. For two thousand years, empiricism controlled the diet given. If a patient did not want food it must be that he should not eat: and this treatment was continued long after the patient desired food, though no one explained the inconsistency.

Of all febrile diseases, typhoid fever most commands the attention of the nutrition expert today. When we examine the statistics of the last decade we find that typhoid stands fourth in the list of mortality diseases, having an average of 10 per cent. In 1910 there were 2500 deaths, representing 250,000 cases, in the United States alone. This disease attacks the individual during the period of greatest economic value to the community. The loss has been estimated to reach not less than \$100,000,000 annually.¹

Since this disease is curable these figures strongly indicate that the former treatment was inadequate. Diet has always been considered an important factor in the treatment of typhoid, but diet has been revolutionized in the past ten or twelve years. Formerly the patient lost much body weight, and took long to recover it during convalescence.

Extended clinical studies of diet in typhoid fever were carried on by American and European investigators which yielded very important results with reference to liberal feeding. Of important work, that of Shattuck reported in 1897 particularly deserves mention because of its influence with respect to modifying earlier practice. A summary of this earlier work will be found in Nichols' paper on the subject.²

Following the clinical studies came laboratory research, in which American physicians were pioneers. Dr. Coleman and associates, Bellevue Hospital, New York, by their respiration calorimeter experi-

¹ Rosenau, Milton J., *Preventive Medicine and Hygiene*. New York: D. D. Appleton and Co., 1913.

² Nichols, John B., *Diet in typhoid fever*. Providence, 1907, Snow & Farnham Co., 92 p. Fish Fund Prize Diss. No. 50.

ments justified the belief, based on clinical evidence, in a high calorie diet in feeding typhoid patients. They were able to show that even the highest of the previous diets (allowing 2000 calories per day) was decidedly inadequate. Yet the diet used for years supplied only 300 calories per day!

Not much could be done towards changing this until metabolism in fever was studied in greater detail. It had always been thought that the digestive power was greatly impaired during fever—proved, again, by the patient's loss of appetite. In the latter part of the nineteenth century, some investigators³ came to the conclusion that the higher valued diets reduced febrile loss but did not prevent it. Doctors Shaffer and Coleman⁴ undertook to re-investigate this, by feeding 25 patients on food⁵ containing a moderate amount of protein and larger amounts of fat and carbohydrates than had hitherto been given. "The most striking result found was the possibility, in all cases, of reducing to a minimum the nitrogen loss, due to breaking down of body tissue. The amount of food required to do this was very large indeed—comparable only to that taken by, for instance, lumbermen in the north woods—and was greater than the amount needed to cover the excess heat production in the body."

In 1912 Dr. DuBois published the results of some six of the highly⁶ fed patients of Dr. Coleman. He says that typhoid patients, throughout the disease, can absorb carbohydrate and protein as well as normal individuals. They can absorb fat in very large amounts, but the per cent of absorption is somewhat lower than usual, especially in the first part of the disease.

Later, the two doctors reported on respiratory exchange experiments,⁷ to determine the influence of the high calorie diet upon metabolism in typhoid fever. The results disproved one of the chief criticisms of the higher amount of food—that of the influence of food on increasing heat production. It is now proved that during the febrile period food does

³ Puritz, Von Keyden, and Klemperer.

⁴ Schaffer, P. A. and Coleman, W., Protein metabolism in typhoid fever. *Arch. Int. Med.*, 4 (1909), pp. 538-600.

⁵ Coleman, W., The high calory diet in typhoid fever; a study of one hundred and eleven cases. *Amer. Jour. Med. Sci.*, 143 (1911), pp. 77-102.

⁶ Du Bois, E. F., The absorption of food in typhoid fever. *Med. and Surg. Rep. Presbyterian Hosp., N. Y.*, 9 (1912), pp. 175-189, 2 ch.

⁷ Coleman, W. and Du Bois, E. F., The influence of high-calory diet on the respiratory exchanges in typhoid fever. *Arch. Int. Med.*, 14 (1914), pp. 163-209.

not in itself stimulate metabolism. They also found that the patients could store body fat even in the time of high temperature.

Up to the present time no one, having given the high calorie diet a fair trial, has rejected its use for all after patients. For instance, at Mt. Sinai Hospital, Dr. Crohn⁸ administered this diet to a large number of patients. He found the food readily taken, distention rare, an absence of the usual emaciation, and a shortened convalescent period. Doctors Kerley,⁹ and LaFetra and Schroeder¹⁰ followed the idea in the case of children. They were able to maintain body weight, to increase the comfort of the patient, and to lessen the dangers of the disease.

Let us now consider the diet itself. Doctors Shaffer and Coleman calculated⁴ that the minimum daily food requirement should be 40 calories per kilogram of body weight per day, that is, 3000 calories for a patient weighing 70 kilograms or 150 pounds. When this was used, the patient lost nitrogen showing that body protein was not spared. To establish nitrogen equilibrium, 60 to 80 calories per kilo were needed. But here, as elsewhere, the optimum amount of food can only be determined by the needs of the individual patient.

It is well known that protein food should not be given, in health, in amounts larger than are necessary to build up or maintain body tissue. Similar conclusions are now drawn in the case of typhoid, although more protein is broken down per day. The above experiments indicated that from 60 to 90 grams of protein per day were found to give the best results.

The fat needs of the patient vary with the stage of the disease and with the individual. Most patients can take more fat during the third and fourth weeks of the febrile period, and during convalescence, than they can earlier in the disease. Frequently one half of the total fuel value of the food can be given in the form of fat.

Carbohydrate food plays a most important part in preventing consumption of body tissue in fever. This food frequently contributed from 30 to 60 calories per kilogram per day.

⁸ Crohn, B. B., Experiences with the Coleman-Schaffer diet in typhoid fever. *Jour. Amer. Med. Assoc.*, 58 (1912), pp. 259-264.

⁹ Kerley, C. G., The dietetic and general management of typhoid fever in children. *Amer. Jour. Med. Sci.*, 143 (1912), pp. 348-352.

¹⁰ La Fetra, L. E. and Schroeder, L. C., Experiences with the high-calory diet in typhoid fever of infants and young children. *Amer. Jour. Diseases Children*, 9 (1915), pp. 387-404.

The selection of the food must be governed by three important considerations. The food must be easily digested, free from harmful residue, and high in calorie value. When we say protein, meat is probably the first food stuff to come to mind. But meat is likely to make an excess of protein in the diet causing rather serious metabolic disturbances, and putrefaction of meat in the intestines may give rise to digestive disorders, and irritate the kidneys. Meat extracts, although they may serve to stimulate appetite, furnish little food, and the extractives they contain may prove toxic. Dr. Coleman concludes that meats, not a necessary source of protein, should be excluded from the diet. Gelatine is especially good if given with sufficient carbohydrate.

Egg whites have long been used, but the value of the whole egg has been overlooked. They are easily digested and the patients may take from four to six a day without difficulty.

Milk is an important, but not an essential, part of the diet. Many patients think they cannot take milk. Van Noorden claims that this is "purely imaginative." There is undoubtedly a limit to the amount of milk that can be digested, depending, of course, upon the individual. As a rule from $1\frac{1}{2}$ to 2 quarts a day are well borne.

The most suitable forms of fat are cream, butter, and egg yolk. Fat has a tendency to cause nausea, vomiting, or diarrhea if given in excess. Again, the individual must be catered to.

Of the carbohydrates we consider only starches and sugars. The starch foods chosen should be easily digested, free from cellulose, and low in water content. Bulk is the chief objection. Toast, cereals (strained), rice, baked and mashed potatoes are the best to use. Cane sugar soon palls upon the taste, and may ferment readily. Glucose alone palls also, but may be used as an alternative. Lactose or milk sugar seems to be the most suitable to use in large amounts. From 100 to 150 grams may be given without producing glycosuria.

Fruits, especially the juice of oranges and lemons and apple pulp, show no ill effects. If the patient suffers from diarrhea even these should be given with greatest caution.

With all this to work from, what kind of menu may be planned? As yet comparatively little has been done in working out cooked dishes, although Miss Cutler, at Bellevue, worked out recipes for custards, junkets, and cocoa, using the maximum amount of lactose that can be taken without spoiling the taste. For example, in a glass of lemonade using the juice of one lemon, three quarters of a glass of lactose can be

used, by making it into a syrup with the water. This beverage gives 450 calories. The ordinary glass yields only 137. Tea, coffee, milk and cream are also good carriers of lactose. Occasionally the dish needs to be sweetened or flavored with cane sugar before the patient likes the taste. Any number of gelatine dishes could be made with either glucose or lactose, fruit juice or milk. This is where the dietitian or nurse must aid the physician.

There are times when the patient finds it hard to take as much food as has been suggested, but usually he will coöperate readily when told that, on the whole, the more he eats the sooner he will recover. Frequently food to the value of 6000 calories was taken without forcing. Dr. Coleman's patients are urged to ask for food whenever they feel they can eat it. The food was usually administered at frequent intervals from six to eight times a day. The higher caloric standard is not reached at once. The patient's individual requirement must be found, and his previous diet may have caused disturbances that need correcting. Consequently a liquid diet—milk, cream, and lactose—is used, being gradually increased.

In conclusion we may say that the high calorie diet is a very great stride towards the better treatment of not only typhoid, but probably of all fevers. The few criticisms come from those who have not tried the diet, and, on the whole, these have been refuted. The advantages seem to be many. The patients are contented, almost free from delirium, and not more liable to relapse. Abdominal distention and diarrhea, which were considered symptoms of the disease, have ceased. Body weight is either maintained or loss is recovered before the patient leaves the hospital. The long slow convalescence has apparently disappeared.

We have here, then, a wonderfully conclusive study, carried on in a comparatively short space of time, and a study of the greatest benefit to mankind.

THE NEW DIETETIC TREATMENT OF DIABETES MELLITUS¹

LENNA F. COOPER

Dietitian, Battle Creek Sanitarium, Battle Creek, Michigan

Diabetes mellitus is a disease about which volumes have been written, but about which comparatively little is definitely known. Neither time nor money has been spared in investigating this rapidly encroaching disease, and as a result of recent research, light is beginning to shine, though there are many problems connected with it that are still baffling. Even the cause has not been certainly established, though a relationship between the pancreas and diabetes has long been suspected, and it is now quite generally conceded that diabetes is due to a "deficiency of the internal secretion of the pancreas." Whether this deficiency is due to a morphological change or to a functional derangement no one is prepared to say, but there are strong probabilities that it may be either one or both.

The symptoms of diabetes are quite marked. Those which most directly interest the dietitian are glycosuria, hyperglycemia, and acidosis. There has been much speculation as to the cause of the non-utilization of sugar in the diabetic organism.

Just how this failure on the part of the body to burn carbohydrates is brought about no one can say. There are several hypotheses. Allen believes that in the normal individual the cells have the ability to bind food substances and that in abnormal cases there is a failure to accomplish the said union; the failure being due to a lack or deficiency of the internal secretion of the pancreas. This subject will be considered further under "acidosis."

Closely connected with the glycosuria is that of hyperglycemia or the excess of sugar in the blood. Normal blood contains on the average about 0.1 of 1 per cent glucose. In diabetes the quantity may be increased several times that of the normal. It is possible to have a hyperglycemia without glycosuria, hence the hyperglycemia becomes another means of diagnosis.

The ratio between the nitrogen and glucose excreted when the patient is on a fat-protein diet, known as the D:N ratio is considered by Lusk and others as an index of the severity of the disease. A ratio of 3.65 to 1 is usually fatal, though a still higher ratio has recently been reported.

¹Part of the address presented at the Ninth Annual Meeting of the American Home Economics Association, Ithaca, N. Y., 1916.

For many years the all important symptom in diabetes to clinicians was glycosuria, but more recently attention has been turned to acetoneuria, (the excretion of acetone bodies) or as it is commonly called, acidosis. Many now consider this a much graver symptom than the glycosuria. There is much evidence to show that these bodies are the result of imperfect oxidation of the fats and proteins, particularly the fats. But it has also been observed that "fats burn only in the fires of the carbohydrates," that even normal subjects can be made to excrete acetone bodies when fasting or when insufficient carbohydrate occurs in the diet. There has been much speculation as to the cause of this failure to burn fats, but Ringer has worked out what seems to be a very plausible hypothesis, and he attributes both glycosuria and acetoneuria to a failure on the part of the body to form the "glucoside union."

Woodyatt believes that obese people, whether normal or diabetic, are very prone to acidosis particularly during fasting because of the burning of large quantities of body fat. Likewise very thin people, unless totally glycosuric, burn body protein with a corresponding amount of glucose and do not develop a high acidosis.

The dietetic treatment of diabetes has passed through several stages. Allen reviews it briefly as follows:

The history of diabetic therapy, so far as it is significant or valuable, consists merely in an inter weaving or alternation of two principles. One is restriction of the sugar-yielding elements of the diet, namely, carbohydrate and protein. The other is diminution of the total caloric value of the diet. The latter is the older. Willis reported benefit from a diet limited to milk and barley-water cooked with bread. There have been milk and vegetable cures since then; but whereas the authors aimed at a nontoxic diet, what they really achieved was under nutrition. Then came Rollo with his notion of animal food to strengthen digestion, and thus the benefit of carbohydrate restriction was accidentally discovered. The harmfulness of excessive protein-fat diet was soon recognized and Bouchardat, Cantani, and Naunyn introduced fast-days and lower diet. Then came the ritual of Van Noorden's oat cure and the widespread ideas concerning special properties in oatmeal, which ought not to have gained credence among those acquainted with the literature of previous carbohydrate and vegetable diet. Blum broke the spell by having the courage to declare that oatmeal is like any other form of starch; and then straightway others made the test, and it became established that there is no special virtue of any kind in oatmeal. The oat cure gave patients a few days' rest from protein-fat excess by substituting carbohydrate excess. Its advocates claimed that it avoided the under nutrition character-

istic of other carbohydrate cures, by making up a diet adequate in protein and calories on the oat days; but the under nutrition was present in the fast days or vegetable days preceding and following the "cure," and therein lay the principal benefit. The oat cure merely shows that a large proportion of diabetics still manifest a surprisingly high carbohydrate tolerance when conditions are not too unfavorable. It is a failure in genuinely severe cases.

The fasting treatment is also an extreme modification of the older method of diminishing the caloric value of the diet. Guelpa, of Paris, in 1910 read a paper before the British Medical Association, recommending fasting purgation as a remedy for diabetes. This method received much more attention in France than in England. In America, Dr. Allen of the Rockefeller Institute has done more than any other one person in not only calling attention to this remedy but in demonstrating the reasons for its efficacy. In other words, Dr. Allen has placed the method upon a scientific basis. Before attempting to apply the method to human subjects he studied the condition in experimental diabetes in dogs made glycosuric by the removal of large portions of the pancreas. He found that when these animals were fasted until sugar free and then kept on a low caloric diet they lived and thrived, but that when he attempted to fatten them, they invariably died. In severe cases (eight-ninths or more of the pancreas removed) he found it necessary to fast the dogs for several weeks before they became sugar free.

In applying these principles to human diabetics, Dr. Allen obtained similar results. He found that by fasting the patient until sugar free for at least twenty-four hours, that he could then feed them upon a gradually increasing diet and keep the patient free from glycosuria. Usually two or three days are sufficient to render the subject free from sugar, but sometimes eight or ten days are necessary. Dr. Allen does not hesitate to recommend the long fast even to greatly emaciated patients unless it is accompanied by nausea and vomiting, in which case it seems advisable to give a very restricted diet for a week or so, then give another fast which is usually sufficient to clear up the sugar. Other physicians believe they get better results by breaking the initial fast after about the third day and repeating it again in a short time. The first and most important step is to render the patient sugar free and this is accomplished by fasting. This gives the weakened functions a rest. After a few days, very severe cases show an ability to utilize some carbohydrate as is shown by a rise in the respiratory quotient, indicating the utilization of metabolic sugar. During the fast, the

patient is urged to drink freely. He may also be given a cup of black coffee and a cup of tea each day, also a clear broth and whiskey in small amounts, though none of these are necessary. From a psychological standpoint it is usually advisable to give something, otherwise the family, if not the patient, himself, becomes somewhat alarmed. For this reason, the fasting diet is sometimes called a "liquid diet." To this diet the addition of an agar-agar jelly is also valuable, not only because the patient feels that he is getting "something" but because it also adds bulk.

The second important step is to establish the tolerance, not only for carbohydrate but for protein and fat as well. Remembering that about 50 per cent of the protein is converted into glucose and that acetone products may be formed from the remainder of it, it at once becomes apparent that protein must also be restricted. Usually not more than 50 to 70 grams are allowed.

Since fats are prone to produce acidosis, and much more so in some cases than in others, the taking of fats may also have to be restricted. It is at once apparent that the caloric intake must necessarily be low. Usually after the patient burns up his excess body fat, the acidosis decreases and the fats may be somewhat increased, but the patient must be made to understand that for a long time at least, he must remain on a low caloric basis. While in an institution, the patient should rarely exceed 2000 calories. Overfeeding, even with fats, will not only cause a reappearance of sugar, but acidosis as well, and the condition may even be worse than before beginning the treatment.

The tolerance is usually established first for carbohydrate, then for protein, and lastly for fat. Allen states that fat should never be given first. For the sake of simplifying the work of both physician and dietitian, some institutions have formulated dietaries with gradually increasing amounts of food constituents. Dr. Hamburger and Miss Perry, dietitian, at Cook County Hospital, have worked out a very efficient system. Two schedules are in use at the Battle Creek Sanitarium, one for mild cases, the other for more severe ones. Schedule 1 for mild cases is so arranged that the carbohydrate increases 0.5 calorie per pound of body weight until 2 calories are given. Then it increases 0.1 calorie until 3 calories are reached; after that 0.2 calorie per pound is added. The fat is likewise increased by ratio. In mild cases a reduction of carbohydrate may be all that is necessary to render the patient sugar free, but for fear of acidosis dur-

ing the semi-fasting and in order to cut down the total calories, the fat is also reduced to a very small amount and then gradually added.

In severe cases the additions must be made much more slowly. It must also be remembered that no schedule will fit *all* cases, and that each patient must receive individual daily attention from both doctor and dietitian. The reappearance of even a small quantity of sugar is the signal for at least a twenty-four hour fast or until the patient is sugar free. When feeding is resumed, the carbohydrate is materially lessened, usually to one-half of the amount which produced the sugar and from this point added more slowly than in the former feeding. When the protein is kept low an increase in the ammonia output usually means an increased acidosis due to too much fat.

A weekly fast or semi-fast is recommended as a routine measure for the sake of sparing the weakened functions.

A third important step is the after care of the patient. Since he usually returns home after a few weeks' stay at the hospital or sanitarium, his care will depend upon himself or members of his family. While he is in the hospital, one of the most important things that can be done for him is to instruct him in both the preparation of his food and in the testing for urinary sugar. If the case is a severe one, he should make daily tests for sugar, but if less severe, once a week. He should also be taught, if possible by laboratory method, the preparation of diabetic dishes. One of the most interesting classes in cookery at the Battle Creek Sanitarium is a class of about twenty-five diabetic patients who meet twice weekly for instruction and practice in this special cookery. It is surprising how much they learn in a few weeks' time about calories and food constituents. It is also important that they should have some printed instructions to carry home with them. This is especially important if the patient is a man and must depend upon someone else to prepare his food. Miss Eckman, dietitian at the Massachusetts General Hospital, has prepared a set of menus with caloric, protein, fat, and carbohydrate values.

In summarizing, Hill and Sherrick of Boston say that the two most important things to remember in this treatment are the following:

First, do not raise the diet too quickly after starvation, and pay just as much attention to the protein intake as to carbohydrate; second, do not worry if the patient loses weight: it will not hurt him.

Dr. Joslin, of Boston, issues the following card of instructions to patients and, in addition to those given here, a list of vegetables, fruits,

and nuts in terms of 5, 10, 15, 20 and 40 per cent carbohydrate, also the caloric value of some miscellaneous foods.

Fasting. Fast until sugar-free. Drink water freely and one cup of tea and one cup of coffee if desired. If sugar persists after two days of fasting, add in divided portions 300 cc. of clear meat broth.

Alcohol. If acidosis (diacetic acid) is present, take 0.5 cc. alcohol per kilogram body weight until acidosis disappears. Alcohol is best given in small doses every three hours.

Carbohydrate tolerance. When the twenty-four hour urine is sugar-free, add 150 grams of 5 per cent vegetables, and continue to add 5 grams carbohydrate daily up to 20 grams, and then 5 grams every other day, passing successively upward through the 5, 10 and 15 per cent vegetables, 5 and 10 per cent fruits, potato and oatmeal to bread, unless sugar appears or the tolerance reaches 3 grams carbohydrate per kilogram body weight.

Protein tolerance. When the urine has been sugar free for two days, add 20 grams protein (three eggs) and thereafter 15 grams protein daily in the form of meat until the patient is receiving 1 gram protein per kilogram body weight, or, if the carbohydrate tolerance is zero, only 0.75 gram per kilogram body weight. Later, if desired, the protein may be raised to 1.5 gram per kilogram body weight.

Fat tolerance. While testing the protein tolerance a small quantity of fat is included in the eggs and meat given. Add no more fat until the protein reaches 1 gram per kilogram (unless the protein tolerance is below this figure) but then add 25 grams fat daily until the patient ceases to lose weight or receives not over 40 calories per kilogram body weight.

Reappearance of sugar. The return of sugar demands fasting for twenty-four hours, or until sugar free. The diet preceding the reappearance of sugar is then resumed except that the carbohydrate should not receive half the former tolerance until the urine has been sugar free for two weeks, and it should not then be increased more than 5 grams per week.

Weekly fast days. Whenever the tolerance is less than 20 grams carbohydrate, fasting should be practiced one day in seven; when the tolerance is between 20 and 50 grams carbohydrate, 5 per cent vegetables and one-half the usual quantity of protein and fat are allowed upon the fast day; when the tolerance is between 50 and 100 grams CHO the 10 per cent and 15 per cent vegetables are added as well. If the tolerance is more than 100 grams carbohydrate, upon the weekly fast day the carbohydrate should be halved.

In addition to the regulation of the diet, physicians are finding exercise a valuable adjunct to the treatment. Pratt and Spooner a few years ago found that diabetic dogs having a tolerance for 125 grams of

glucose when kept in a cage, had an increased tolerance of 10 grams when left free to run about. Allen has also found that dogs utilizing only 100 grams of bread without exercise can be made to handle 200 grams working in a treadmill. This principle is also made use of in treating people, but it must be borne in mind that it is a dangerous procedure when there is marked acidosis. Such a patient should be put to bed during the fast and kept quiet until the acidosis subsides. Then, vigorous exercise for short periods, the length of which may be gradually increased, undoubtedly increases the sugar consumption.

The results of the above line of treatment have thus far proven very satisfactory. It is true that many physicians are apparently fearful of such heroic measures, but those who have followed it out consistently are very much pleased with it. Most of our large hospitals are now employing it.

About 400 cases have been treated at the Battle Creek Sanitarium with very satisfactory results. Diabetes in children, a condition formerly considered absolutely hopeless, now yields quite rapidly to the régime. What the ultimate results will be of living on a low metabolic plane, reaching perhaps over a period of several years duration, no one can foretell, but it has already been demonstrated that it prolongs life, renders the patient more comfortable, and increases the mental and physical efficiency to such an extent that most of them are able to continue with their former avocations. Hence, it would seem that there is nothing to lose by the new method of treatment, but, to the contrary, there is much to gain.

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SWEEPING POWDER

Miss Eda Lord Murphy, of Georgia Normal and Industrial College, sends the following directions for the preparation of a sweeping powder, the result of experiments made in the school, with varying proportions.

The ingredients of this satisfactory sweeping powder are sawdust; sand, tending to polish the floor; salt, keeping the mixture moist; kerosene for catching the dust, and a disinfectant.

Sawdust	1 barrel
Sand (sifted)	1 bushel
Salt (coarse)	10 pounds
Kerosene to moisten.	
Creolin, or other disinfectant.	

The commercial varieties cost about $3\frac{1}{2}$ cents per pound, even in large quantities, while this can be made at a cost of about $\frac{1}{4}$ cent per pound.

A MASSACHUSETTS CANNING SCHOOL

LAURA COMSTOCK

Extension Professor in Home Economics, Massachusetts Agricultural College

The Essex County Agricultural School held a canning school during the first week of September, in Danvers, Mass., to give instruction to the housekeepers and the local leaders of canning clubs of that county. Mr. Fred A. Smith, Director of the school, conceived the idea and secured the coöperation of the Massachusetts Agricultural College to map out a program, secure necessary demonstrators and speakers, and to assist during the week of the school.

A temporary wooden structure was erected adjacent to the Home Economics building. This was screened and was equipped with seven tables, each accommodating eight people; two ranges, two oil stoves, one out-door canner stove. Charcoal and oil were the fuels.

Each member of the school actually took part in the canning, learning "to do by doing." The vegetables and fruits used were raised on the farm in connection with the school.

From 9.30 to 10 each morning instruction was given by members of the Agricultural School staff on the cultivation of fruits and vegetables. The rest of the morning was devoted to the actual work of canning both fruits and vegetables, jelly making, and similar processes under the direction of Mrs. Nellie F. Snyder of the United States Department of Agriculture.

The first hour in the afternoon "The Menu" was discussed under the leadership of Miss Laura Comstock of the Massachusetts Agricultural College. The second hour was given to lectures on health and sanitation. Dr. Evangeline W. Young of the School of Eugenics, Boston, talked on personal and sex hygiene; Miss Mary Stocking of Simmons College gave two talks on sanitation in the home, and Dr. Jones of the State Board of Health gave a talk on the prevention of disease.

For three afternoons Mr. George L. Farley, State Leader of Junior Extension Work, gave instruction as to the value of club work to the individual boy or girl and to the community, discussed ways of organizing clubs, and the follow-up work necessary. Miss Bertha A. Holden, appointed supervisor of the Homemaking School in the Essex County Agricultural School in July, made possible the week's success by attending to details and providing night quarters.

Although the weather was exceedingly hot for three of the five days an average attendance of 79 for the five days showed the interest taken in the work and the value members placed upon the instruction.

The practical work done by the students was as follows: canning of fruits and vegetables, jelly making, fruit butters, marmalades, and conserves.

The success of the school has proved to those who had it in charge the desirability of this kind of instruction in other localities.

THE NEED OF STANDARDIZATION

The Twenty-third Annual Report of the Inspector of State High Schools, state of Minnesota, for the school year ending July 31, 1916, contains the following statement:

Less can be said favorable to manual and home training. Teachers are better trained than formerly and, as a result, such subject-matter as we have is better presented. The required qualifications of teachers in both these departments are as high as it is at present desirable to make them. But the courses of study are too often found to be unrelated and indefinite—having no purposeful connection with other school work and leading to no intelligent and serviceable life relationships. There are no prescribed nor generally accepted standards of content for the courses of study in either manual or home training. The character of the work in these departments leads to the conclusion that a suggestive outline of subject-matter must be prepared at the earliest time possible.

Home training is found to be by far the most popular subject. The enrollment shows a decided increase in the grades and has almost doubled in the high school. The number of departments has increased from 79 to 185.

FOR THE HOMEMAKER

ANNOUNCEMENT

Miss Helen Louise Johnson, who has been for four years chairman of the Home Economics Department of the General Federation of Women's Clubs, and whose remarkable work on this committee has aided materially in the development of Home Economics, is to write a series of articles for the Homemaker's Department. These will appear in February, March, April, May, September, October, and November.

The first three topics are as follows:

- I. February. Food and the Budget.
A study of conditions and how to meet them.
- II. March. Women and Clothes.
What the clubs are doing in the matter of standardization.
- III. April. Club Programs in Home Economics.

HOMEMAKING AS A PROFESSION

MRS. LEAH D. WIDSTOE

Salt Lake City

"Home Economics stands for the ideal home life for today unhampered by the traditions of the past."

Home Economics as trade or profession. A trade is an occupation in which the worker is instructed in the performance of certain tasks, with the responsibility or power of directing assumed by another. Such is the trade of carpenter, mason, bricklayer, plumber.

The work which involves the responsibility of having the many tasks correctly done is in the nature of a profession. Thus the work of the architect or contractor is a profession.

The term "learned profession" often is used. That involves the spending of much time and possibly money in the learning of the chosen

profession, and is usually done by means of attendance at schools and colleges. Such is the profession of law, medicine, architecture, and all the liberal arts.

One may learn to assume the responsibility in the performance of great tasks by hard knocks in the school of experience only. Such would not be termed a learned profession. The business of a contractor may be classed here.

In the light of the above definitions where may the great work of homemaking be classed? It is universal; that is, there are workers of all classes and intelligences engaged in its occupation. But the woman who is the most successful in making a home is in every sense engaged in a learned profession—the greatest one on earth. For she has to initiate, plan, direct, and carry out operations which involve in greater or less degree all the sciences and arts known to man. She also deals with those subtler spiritual powers which make or mar his personal happiness and influence his soul's salvation.

The importance of this work as regards children can scarcely be overestimated. Mrs. Fisher has indicated the great responsibility of parents when she says: "We might conceivably have undertaken to build railway bridges, even though the lives of multitudes depended on them; we might have become lawyers and settled people's material affairs for them; or even, as doctors, settled the matter of their physical life or death. But to be responsible to God, to society, and to the soul in question for the health, happiness, moral growth, and usefulness of a human soul, what reflective parent among the whole army of us has not had moments of heart-sick terror at the realization of what he has been set to do?"

Can anyone feel that this important work should be undertaken at marriage by girls who rely for preparation upon chance occupations at home supplemented by the much abused "mother instinct"? "There should be no more question as to the need of education and training for the woman who selects the food, clothing, and works of art which minister to the highest welfare of a family, than there is for the need of study on the part of the farmer, manufacturer, or the artist who produces them."

Methods of acquiring. The young woman of today has no excuse for answering "not prepared" when life demands that she assume her place as homemaker.

The ideal way for her to learn her profession is to be a willing helper

in a well ordered home, always as Mother's first assistant. There she learns through actual hand contact the methods and the practice of the scientific truth she has learned in the schoolroom.

The mother has not time to teach her the theory as well as the practice even though she knows it. So the schools must supplement this home training and give boys and girls an intimate understanding of these truths that they are to use most in their after life. All truth is good, but life is so fleeting that one must choose that most worth while.

Those who are mothers and grandmothers today need not feel cheated because the schools did not teach such things in their time. Our grandmothers, many of them, were beautiful housekeepers and splendid mothers. They learned their lessons in the hard school of experience and with the price of much unnecessary suffering. Their daughters may now start life with much of the wisdom with which they ended it; but the daughters must go on, improve, and learn other lessons.

All that is necessary is that the desire for improvement remain with one to the end of life, for the absence of growth is death.

There are many ways in which the mature woman of today may keep up-to-date in matters pertaining to better homes. First, she should keep an open mind and, by means of observation of others in their homes and methods of daily life, find things to avoid or to accept and make part of her own life. There are so many good books and magazines published that one can never hope to keep up with all of them; but one should be alert to find new works that will be of particular benefit, and also if possible to be conversant with at least one good home magazine.

In addition there are the extension and correspondence schools provided by the government and state educational authorities which make possible the bringing of new truth and inspiration to our very doors. So the wide-awake woman of today, be she 16 or 60 or 90 years old, can not fail to improve her condition of life unless she is wilfully blind or lazy.

The beauty of home work. A book could be written on the beauty and benefits of home work. Here let it be understood that no work in which man engages on earth can give more satisfaction, more complete joy than that experienced by the mother who has brought up her family in a happy, well ordered home, and sent them out into the world trained to deal with its problems and with the spirit of service.

In no sense can this work be termed *drudgery* unless the one who undertakes it is totally unprepared for it. The performance of a task by rote in which the mind takes little or no account may be termed drudgery. To avoid this the first essential is the proper training. "Whenever one's knowledge of a subject passes the stage of drudgery and becomes a science, its performance immediately becomes a pleasure. The ability to do a thing in the highest known perfection, or even a little better than anyone else, is always a source of delight, and it matters little what that somethings is."

All human work possesses a certain amount of routine or work that must be performed over and over again in the same manner. This is unavoidable with conditions of morality. Even the artist who paints the most glorious conceptions of nature must clean his brushes and his palette and even his studio. If he can not afford an assistant he does it himself. Yet one never hears an artist going around complaining about the drudgery of cleaning his materials! All work must accept its known routine but the worker must use brains to make the routine as little as possible and to keep its place in the background, as does the artist.

The essential thing for all to learn is to love their work, to see its possibilities as well as its difficulties and to make their work their servant instead of their master. This can be done by the homemaker as well as by the physician.

Indeed the first essential to all good work is joy in the doing of it. So the girl must learn her job just as seriously as the boy learns his and must know that it is worth while.

Practice every day finding something helpful to the members of your family that will contribute to their "higher life" and do not hesitate to let your daughter or her friend hear you speak of this phase of home work. We always find what we look for—if it is improvement; it is at our very door knocking for entrance. Will you not let it enter?

DISTRIBUTION: WHAT DO YOU KNOW ABOUT IT?

PERCIVAL FASSIG

Wheeling, West Virginia

Distribution is getting the finished product to the consumer. In fifty, yes, seventy-five, per cent of the cases it costs more to market an article than to manufacture it. We often wonder why prices are higher today than formerly. Much can be traced to finding a market. Finding or creating a market costs money, and lots of it.

If one picks up any magazine or newspaper and looks over the pages of advertisements one finds automobiles, typewriters, furniture, shoes, clothing, preserves, meats, beans, pickles, canned goods, breakfast foods, all arrayed in expensive space with well written matter, and, often artistically illustrated. Then in many cases thousands are spent on circular letters, and store, billboard and street-car advertising. Unfortunately, after creating a market the manufacturer can not rest on that; he must keep "everlastingly at it" should he desire to be successful. When we stop to consider, we know that we must help pay for that expense when an advertised article is purchased? That is only part of the distribution system. In addition, there are the salesmen, or agents, or brokers, the jobbers, the retailers, and the transportation, including the drayage.

Creating a market, then, is one source of our "high cost of living." Whose fault is it? It is yours, mine, and the other person's. We do not know what we want—we rely on the statement of somebody else.

If the farmer must pay more for his clothing, shoes, and implements, he must receive more for his products. If the working man must pay more for his food, wearing apparel, furniture, and rent, he must receive higher wages. And so goes on the endless chain which has its beginning in finding a market.

Undoubtedly, the greatest force in creating a market is advertising—the printed word—and it is undoubtedly the most expensive. Few articles intended for the people at large find a ready market unless well advertised. Take any line, and the dealer will say that it is the advertised article that is asked for by name, and that it is difficult to sell the unadvertised product.

Salesmen are another form of advertising. The firm using printers' ink must also, as a rule, employ salesmen. All the printers' ink in the

world will not bring success unless the article is easily obtainable. Therefore, the manufacturer through his salesmen goes after the jobber, and the jobber in turn assails the retailer, who places the article before the consumer.

Staples such as sugar, flour, potatoes, beans, apples, and oranges are not, as a rule, advertised with printers' ink, but they must yield from three to four, and sometimes five, profits before they reach the consumer. Oranges are handled to a great extent through growers' associations; the associations reach the jobbers, or commission merchants, through local brokers who employ salesmen; the jobbers through their salesmen reach the retailers; and many retailers have salesmen (men to call at the homes) to reach the consumers. In addition to this expense, there is railroad transportation to the jobber, drayage to his warehouse; drayage to the retailer (sometimes drayage, transportation, and drayage); and delivery to the consumer. That is distribution. Does one wonder why it costs to live?

Every one of us who is too proud to carry our purchases is a party to this high cost of living. The grocer will tell you delivery forms the greatest part of his overhead expense. A most commendable plan is that, adopted by some merchants, of charging a certain per cent additional for delivery.

THE FOOD SUPPLY

The annual report of the Secretary of Agriculture contains the following interesting answer to the question as to whether the domestic food supply of the Nation is keeping pace with the growth in population and what are the prospects for the future.

Food supply of the United States

POPULATION

June 1, 1900	75,994,575
June 1, 1910	92,174,516
June 1, 1916	101,882,479

ITEM	PRODUCTION	
	Total	Per capita
Meats: Beef, veal, mutton, and pork (pounds):		
1899.....	18,865,000,000	248.2
1909.....	19,712,000,000	213.9
1915.....	22,378,000,000	219.6
Dairy products:		
Milk (gallons)		
1899.....	7,265,804,304	95.6
1909.....	7,466,406,384	81.0
1915 (estimated ¹).....	7,696,844,000	75.5
Butter and cheese (pounds)		
1899.....	1,790,097,244	23.6
1909.....	1,942,378,069	21.1
1915 (no data available)		
Poultry products:		
Poultry raised (number)		
1899.....		
1909.....	488,500,000	5.3
1915 (estimated).....	555,500,000	5.5
Eggs (dozens)		
1899.....	1,294,000,000	17.0
1909.....	1,591,000,000	17.3
1915 (estimated ¹).....	1,811,000,000	17.8
Fish (pounds):		
1900-1904.....	989,275,000	² 12.5
1908.....	1,046,541,000	² 11.6
1915 (no data available)		
Cereals: Corn, wheat, and rice (bushels):		
1899.....	3,333,868,710	43.9
1909.....	3,257,407,468	35.3
1915.....	4,094,986,999	40.2
Potatoes (bushels):		
1899.....	273,318,167	3.6
1909.....	389,194,965	4.2
1915.....	359,103,000	3.5
Sweet potatoes (bushels):		
1899.....	42,517,412	0.56
1909.....	59,232,070	0.64
1915.....	74,295,000	0.73
Citrus fruits: Oranges, lemons, and grapefruit (boxes).		
1899.....	7,075,557	0.093
1909.....	23,447,044	0.254
1915 (estimated).....	24,670,282	0.272

¹ Based upon average annual increase, 1899 to 1909, as shown in census.² Based upon population, June 1, 1902, 79,230,563.³ Based upon population, June 1, 1909, 90,556,521.

Food supply of the United States—Continued

ITEM	PRODUCTION	
	Total	Per capita
Orchard fruits: Apples, peaches, and pears (bushels):		
1899.....	197,455,620	2.6
1909.....	190,433,327	2.1
1915.....	304,686,000	3.0
Small fruits (quarts):		
1899.....	463,218,612	6.1
1909.....	426,565,863	4.6
1915 (no data available)		
Sugar (pounds):		
1899.....	486,006,871	6.4
1909.....	1,688,390,143	18.3
1915.....	2,025,680,000	19.9

These statistics cover the past sixteen years. Within this period the population of the nation has increased, in round numbers, 26,000,000, or 33 per cent. The articles dealt with cover the more important parts of the diet of the people. Meats and dairy products constitute 37 per cent of the average diet, fish 2 per cent, cereals 31 per cent, Irish and sweet potatoes 13 per cent, and other vegetables 8 per cent. It is notable that, notwithstanding the very rapid increase in population, the production per capita of the commodities indicated, with the exception of meats and dairy products, has remained approximately the same or has increased.

FOOD LABELS

In order that the legend on food and drug packages may be less misleading to the public, the officials in charge of the enforcement of the Food and Drugs Act have provided a new plan whereby manufacturers may guarantee their products on the invoice or bill of sale, or by certain other methods, but according to a food inspection decision which became effective on November 1, 1916, they may not make any statement regarding a guaranty or serial number on the labels of packages of foods or drugs which enter interstate or foreign commerce.

Originally it was provided that the manufacturer or wholesaler who desired to guarantee that his products complied with the Food and

Drugs Act might file a general guaranty with the Department of Agriculture to the effect that the foods or drugs he shipped into interstate commerce were not adulterated or misbranded within the meaning of that act. He was then assigned a serial number and was authorized to use this number on his labels to indicate that the guaranty which he had filed with the Department covered the products on which the number was used. After this method had been in operation for some time it was found that it was incorrectly assumed by consumers generally and some retail dealers that the guaranty legend on the label meant that a sample of the product had been examined by the Department and that in effect the Department actually guaranteed the product.

The object of the new provision is to make the manufacturer or wholesaler or person who knows the composition of the food and drug products responsible for their compliance with the provisions of the law. In many cases a dealer does not know the composition of the products he sells, and can not afford the expense of having an analysis made in order to determine it for himself. A provision, therefore, was inserted in the law to the effect that, if the dealer secured a guaranty from the manufacturer or wholesaler or other person from whom he purchases, the party making the guaranty would be responsible under the law, and the dealer would be relieved of responsibility. The dealer should see that all his foods and drugs which have entered interstate commerce, or which he expects to ship in interstate or foreign commerce or to sell in the District of Columbia or the Territories, are guaranteed to him in the manner outlined.

The guaranty was never intended to be, and never has been, in any sense a guaranty by the Department of Agriculture.

There is also a net weight amendment to the Federal Food and Drugs Act requiring that all packages of foods which are shipped into interstate or foreign commerce must be marked plainly and conspicuously with a statement of the quantity of the net contents, either by weight or measure. Shippers who violate the law by failing to mark the quantity of the contents of each package of fruits and vegetables they ship into interstate commerce are liable to criminal prosecution.

EDITORIAL

A Greeting. A Happy New Year to the readers of the JOURNAL! In planning for the coming year we wish to thank our readers for the many pleasant things they have said of the JOURNAL, and for their appreciation of what we have tried to do, and also for the criticisms that are showing us how to make an effective expression of the purposes of the Association. We wish to bring needed help to every teacher of Home Economics, to the many housekeepers who are looking to us for guidance, to the extension worker, and the institution manager. It is our ambition to be in every library in the country, to be on sale at one news stand at least in every large city, and to go into many homes.

For the coming year we plan short articles that will interpret to the reader the results of research and investigation, in addition to the longer reviews of such work; articles written with direct reference to the high school teacher's needs; six articles by the editor written with particular reference to the elementary school; and seven for the Homemaker's Department by Miss Helen Louise Johnson, who for four years served the General Federation as Chairman of their Home Economics Department. In addition we hope for many contributions from the various colleges and schools where work is going on and new ideas are being worked out.

We express heartily our thanks to the many who have contributed during the year articles, reviews, news items. Without these contributions we could not conduct the JOURNAL.

The Smith-Hughes Bill. The Smith-Hughes Bill that has so long been under consideration will probably be brought up for passage in the House early in January. It will then go to a conference committee to be amalgamated with the bill that has already passed the Senate. The following organization for the Board of Control is proposed:

1. *A Federal Board of Seven* consisting of:

The Secretaries of Agriculture, Commerce, Labor, the Commissioner of Education, and three members generally representative of Agriculture, of Labor, and of Manufacture and Commerce.

or A Federal Board of Five consisting of

The Secretary of the Interior, the Commissioner of Education, and three members generally representative of Agriculture, of Labor, and of Manufacture and Commerce.

To be appointed by the President, with the advice and consent of the Senate, for a term of four years.

Compensation—adequate to secure the services of the highest grade men.

2. Federal Board to annually elect its Chairman.

3. Federal Board to appoint a general director of all vocational work; compensation to be fixed by the Board.

4. Federal Board to employ such clerical and other assistants as may be necessary.

5. *Advisory Committees to be Appointed* from time to time, of five members, each generally representative of Industry, Commerce, Labor, Agriculture, Homemaking, and General or Vocational Education.

Term of Service to be determined by Federal Board of Vocational Education.

Compensation of Advisory Committees to be determined by Federal Board of Vocational Education.

COMMENT AND DISCUSSION

TEACHING HOME ECONOMICS ABROAD

The International Committee on Home Economics Teaching has received the following from one of the readers of the JOURNAL.

I have read with keen interest the article "International Interests in Home Economics" appearing in the November JOURNAL OF HOME ECONOMICS. For several years it has been my ambition to go out into some country less favored educationally than our own and to have a share in Home Economics pioneering. I think that we who believe in education for the home should have a large share in training of young women in South America, Africa, the Islands, and the Orient.

If the International Committee on Home Economics has a list of candidates for foreign work, I should be very glad to register. How may I best learn of foreign conditions and opportunities, especially relating to the field of Home Economics?

Three cheers for Canton Christian College, and for Miss Liu and for all who are making big ventures for the sake of big causes!

With heartiest interest in the international work and a desire to coöperate, I am, Yours very truly, * * * *

The Chairman of the International Committee, Dr. Andrews of Teachers College, Columbia University, will be very glad indeed to hear from other members of the Association.

THE QUESTION BOX

The following question comes from a visiting housekeeper in one of our large cities:

"We find that we must economize in all possible ways but we do not wish to do so in any manner that will affect the health of the child. What would you have to say in regard to the substitution of skim-milk for whole milk for the entire family use?"

Answer: It has been found by recent investigation that certain fats carry an essential dietary constituent, a food accessory the chemical nature of which is at present but little understood. Animals fed on diets lacking this substance fail to grow normally and finally die although sufficient fat as such is contained in the diet. The fat of milk and egg yolk apparently contains more of this unknown substance than other natural foods. Animal tissues, especially the active organs, contain some of this material. It is present in beef suet but wholly lacking in lard. In cereal grains it is present in small but wholly inadequate amounts. Vegetable oils contain very little or any of it. Therefore to advise the use of separator skimmed milk containing only 0.02 % to 0.05 % of fat, in the diets of children may be unwise unless adequate provision is made for supplying the essential fat soluble constituent through a fairly liberal use of eggs, butter, cream and meat. In groups where the cost of these foods makes their use almost prohibitive it is wiser to use whole milk, for there is danger that the children may suffer from lack of this essential fat constituent.

The literature pertaining to this substance includes the following important articles.

Osborne and Mendel, *Jour. Biol. Chem.*, vol. 15, 1913, p. 311; *Jour. Biol. Chem.*, vol. 16, 1913, p. 423; *Jour. Biol. Chem.*, vol. 17, 1914, p. 401.

McCollum and Davis, *Jour. Biol. Chem.*, vol. 15, 1913, p. 167; *Jour. Biol. Chem.*, vol. 20, 1915, p. 633.

McCollum, N. Simmonds, W. Pitz, *Amer. Jour. Physiol.*, vol. 41, 1916, p. 333.

BOOKS AND LITERATURE

Milk and Its Hygienic Relations. By JANET E. LANE-CLAYPON, M.D. New York: Longmans, Green and Company, 1916, pp. vi + 348. \$2.50. By mail of the Journal, \$2.64.

To any one who is at all familiar with the enormous number and diversity of the scientific contributions to the subjects of milk and its relations to the public health a review of the literature thereof seems like a herculean task for any one individual. Yet this has been undertaken by Dr. Lane-Claypon, Assistant Medical Inspector under the Local Government Board, for the Medical Research Committee of Great Britain. The resulting volume, which was called "a well-documented encyclopaedia of the subject, and more" by one reviewer is not intended merely as a guide to the research worker in the problems of milk and its proper treatment as food. It is also written "to allow those ignorant of scientific technology to appreciate the chief positions which knowledge has gained in this matter, and that for this reason the book may have added value in bringing the illumination given by scientific work to those who are responsible for the formation of public opinion and for the determination of administrative action."

Out of the wealth of available material the author states that she has concentrated attention mainly upon those branches of the subject which have received less attention from other writers. Her volume includes chapters upon the composition of milk; its so-called "biological properties;" its cellular content; the changes in milk incident to various manipulations such as heating in preparation for feeding it; the contaminations of milk; the comparison

of breast feeding and the use of cow's milk for infants; bacteria and milk; along with other essays less easily classified. Each chapter is followed by a selected bibliography; and it is preceded by a brief summary written in non-technical language so as to present the more permanent deductions as well as the unsolved problems to the lay reader. This is a unique feature well worth embodying in other books of a similar purpose.

Some of the readers of the JOURNAL will recall the remarkable volume on *Milk and Its Relation to the Public Health*, compiled from essays by various authors and published in 1908 as Bulletin No. 41 by the Hygienic Laboratory of the U. S. Public Health Service. The reviewer has failed to discover in Dr. Lane-Claypon's book any mention of this valuable contribution which contained among numerous others a noteworthy monograph by the late Prof. J. H. Kastle and Dr. Roberts on the Chemistry of Milk. In fact one will search in vain in the new volume for references to some of the many American contributions to the literature on milk later than 1913, although British papers of the following two years are not overlooked. This charge of neglect does not apply to the subject of milk-borne infections in which the American papers on streptococcic sore throat are not forgotten.

Some of the traditional statements, particularly in regard to the overworked milk ferments, might well be abandoned and finally deleted from our books. Many of the assumptions are based on data from the days prior to the appreciation of strict antisepsis or asepsis in the study of certain milk problems. It requires courage

to consign some of the older ideas to the rubbish heap. Dr. Lane-Claypon's discussion of the inorganic components of milk is timely. Some of the theses in regard to the transference of immunity through milk are important, if substantiated. Pediatricians will read with some interest that "where artificial feeding must be employed, there is no evidence that milk loses any of its nutritive value by boiling. The work of numerous observers indicates that rather more satisfactory progress is made with boiled than with raw milk" (p. 188); and that "very little difference, if any, appears to be detected between the different forms of milk—that is, raw or boiled. In some instances the boiled milk appears to be better utilized than the raw, while in one or two cases the reverse is found to be the case. Generally, however, no marked difference was shown" (p. 174). No reference is made to the contentions of Hess regarding the appearance of scorbutus due to the exclusive use of pasteurized milk; but the author devotes a chapter to the alleged production of Barlow's disease by the use of heated milk. It is interesting to have some attention given to the growing importance of dried milks in the food industry. In defence of breast-feeding Dr. Lane-Claypon is convinced that "the evidence brought forward gives no support to the statements which have been made to the effect that the capacity for lactation is decreasing among women. Where care is exercised and adequate attention paid to the necessary details, the glands can in nearly all cases be brought into the required degree of activity" (p. 147).

The author has frankly said that the hygienic aspects of the milk supply open such a variety of intricate questions that it is difficult to form a well balanced judgment. There should be some consolation to any who has labored so diligently, in the knowledge that each earnest attempt, like the present one helps to make subsequent efforts both easier and better. Every such useful service is commendable.

LAFAYETTE B. MENDEL.

Human Physiology. By PERCY G. STILES. Philadelphia: W. B. Saunders Company. 1916, pp. 405. \$1.50. By mail of the Journal, \$1.64.

Here is a most welcome addition to that very short list of text-books in physiology which cover the subject more completely and thoroughly than does the high school text, yet not in the detail required for one suitable for use in a medical school.

While this is a general text, the chief emphasis is undeniably upon topics relating to nutrition, i.e., digestion, absorption, metabolism, dietetics; about one-fourth of the book is devoted to these. They are still more fully treated in *Nutritional Physiology*, by the same author.

The subject-matter is modern, the author's point of view is carefully chosen with reference to the needs of the general student not armed with two or three years of college work in several sciences. Where the facts are notably a matter of dispute, e.g., with regard to kinds and amount of proteins in the diet, desirableness of frugality in feeding, the contentions and the evidence on both sides receive attention.

We cannot help suspecting, as we read, that this author must be not only a scientist and a teacher, but also a philosopher and a shrewd observer of human nature. Because of this attitude, his book should make a general appeal and have a wide usefulness.

MINNA C. DENTON.

Nutritional Physiology. By PERCY G. STILES. Philadelphia: W. B. Saunders Company. Second edition, 1915, pp. 288. \$1.25. By mail of the Journal, \$1.36.

Those of us who have been in the habit of recommending this book to students in need of a review of the subject, were glad to see the new edition appear. The additions which have been made (e.g., mention of Carlson's work on the stomach, and the section on vitamins), though not extensive, are important.

The book treats of digestion and metabolism in simple, concise, elementary fashion,

and may be used by those who have only a rudimentary preparation in chemistry and biology, as well as by others who desire a brief review brought up to date.

The author has a gift for making clear even the most complicated of these topics and the most intricate details. Moreover, the book is a practical one, i.e., it undertakes to apply scientific teachings to every day experiences wherever possible. Best of all, it strikes a happy medium between the detailed scientific statement which is so strictly qualified as to convey no distinct impression of any sort to the general reader, and the vivid, not to say lurid, imagery so frequently indulged in by the writer who serves up scientific topics for popular consumption.

As a text-book, it is particularly recommended to the attention of teachers of home economics classes consisting of students who must, for some reason, abridge as much as possible their preparation in physiology, yet need to understand many of the details of the physiology of nutrition and the teachings of dietetics. It is also recommended as a book of reference to those interested in reading a brief, sane digest of those topics so difficult to treat, classed under the heading "Hygiene of Nutrition."

MINNA C. DENTON.

Thrifty by Household Accounting. Published by the American Home Economics Association, 1211 Cathedral Street, Baltimore, Md., 1916, pp. 34 (paper). \$0.15.

This pamphlet offers several unique features. It is the only account book giving opportunity for recording the expenditure of money for foods according to their leading constituents. The system of classifying all expenditures at the first entry prevents duplication. It provides, furthermore, for the record of personal expenditures for individual members of the family.

It makes provision for thirteen weeks of house, food, and personal expenditure, with a summary for each week of "cash for use," "cash used" and "cash left over." Furthermore, there is a summary of weekly cash records, savings, and debts, for, as the introduction suggests, "It is often advantageous

to keep a record of savings so as to encourage their increase, and a record of debts so as to encourage their decrease."

The introductory statements are very suggestive, and the publication should be valuable to the busy housekeeper because of its simplicity and its dietetic emphasis.

Thrifty by Household Accounting is already in its second thousand. It has been adopted by a number of social investigators who find it especially helpful in tabulating the expenditure of individual members of families. It is well adapted to class use in the study of budgets.

CORA M. WINCHELL.

Low Cost Recipes. By EDITH GWENDOLYN HARBISON. Philadelphia: George W. Jacobs and Company, 1914, pp 208. \$0.75 By mail of the Journal, \$0.83.

This book is written by the editor of *Table Talk* and is evidently a collection of recipes from that magazine. Its name would imply that it was another contribution to the literature intended for the housekeeper who must count the costs with care. If in the cost of food is included labor, time, cost of materials, and utensils required for preparation, the term "low cost" is misleading. A number of the dishes give ways of using leftovers but since they call for the use of ring molds, patty shells, and many unusual seasonings and ways of garnishing they will not be of much use in reducing the cost of living. The recipes are evidently collected from many sources for there is no uniformity of terms or methods. In this day of level measurements it is very strange to see the phrases "heaping teaspoon" and "rounding tablespoon" and even that stand-by of our grandmothers "butter the size of an egg." Soda is put into sour milk in some recipes while in others it is dissolved in hot water.

There are no general directions or descriptions and there are a number of types of dishes which are not mentioned. However there are many attractive recipes and to a young housekeeper or an experienced one who has fallen into a rut the book should offer valuable suggestions.

FRANCES L. SWAIN.

BOOKS RECEIVED

- Adenoids and Tonsils.* By Algernon Coolidge. (Harvard Health Talks) Cambridge, Mass.: Harvard University Press, 1916, pp. 46. \$.50. By mail of the Journal, \$.55.
- An Adequate Diet.* By Percy G. Stiles. (Harvard Health Talks) Cambridge, Mass.: Harvard University Press, 1916, pp. 48. \$.50. By mail of the Journal, \$.55.
- The Baby Before and After Arrival.* By Joseph Brown Cooke. Philadelphia: J. B. Lippincott Company, 1916, pp. 239. \$1.00. By mail of the Journal, \$1.05.
- Clothing and Health.* By Helen Kinne and Anna M. Cooley. New York: Macmillan Company, 1916, pp. 302. \$.65. By mail of the Journal, \$.71.
- Constructive Sewing.* Book 1. By Mary E. Fuller. Indianapolis, Ind.: Industrial Book and Equipment Company, 1916, pp. 91. \$.60 (paper). By mail of the Journal, \$.65.
- The Control of Hunger in Health and Disease.* By Anton Julius Carlson. Chicago: University of Chicago Press, 1916, pp. 319. \$2.00. By mail of the Journal, \$2.14.
- Ella Flagg Young and Half a Century of the Chicago Public Schools.* By John T. McManis. Chicago: McClurg and Company, 1916, pp. 238. \$1.25.
- Feeding the Family.* By Mary Swartz Rose. New York: Macmillan Company, 1916, pp. 449, \$2.10. By mail of the Journal, \$2.21.
- Food and Health.* By Helen Kinne and Anna M. Cooley. New York: Macmillan Company, 1916, pp. 312. \$.65. By mail of the Journal, \$.75.
- The Home Care of Sick Children.* By Emelyn Lincoln Coolidge. New York: D. Appleton and Company, 1916, pp. 282. \$1.00. By mail of the Journal, \$1.05.

PAMPHLETS RECEIVED

- The following Government pamphlets may be obtained from the Supt. of Documents, Government Printing Office, Washington, D. C.; or Dept. under which they are issued.
- Commercial Handling, Grading, and Marketing of Potatoes.* By C. T. Moore. Farmer's Bul. No. 753, Nov. 1, 1916, pp. 40.
- Business Practice and Accounts for Coöperative Stores.* By J. A. Bexell. U. S. Dept. of Agr. Bul. No. 381, Sept. 29, 1916, pp. 56.
- A Survey of Typical Coöperative Stores in the U. S.* By J. A. Bexell. U. S. Dept. of Agr. Bul. No. 394, Nov. 3, 1916, pp. 32.
- List of References on Child Labor.* By H. H. B. Meyer and Laura A. Thompson. U. S. Dept. of Labor. Children's Bureau Industrial Series No. 3, 1916, pp. 161.
- A Respiration Calorimeter, Partly Automatic, for the Study of Metabolic Activity of Small Magnitudes.* By C. F. Langworthy and R. D. Milner. Reprint form Jour. of Agr. Research, vol. 6, No. 18, Dept. of Agr. 1916, pp. 703-720.
- Rural School Sanitation.* By Taliaferro Clark, George L. Collins and W. L. Treadway. Pub. Health Bul. No. 77, Treasury Dept. 1916, pp. 127.

The following are issued by the Bureau of Farm Development, Business Men's Club, Chamber of Commerce, Memphis, Tenn.

- Legumes-Peas-Beans.* By Bessie R. Murphy. pp. 4.
- Peanuts for Breakfast, Dinner and Supper.* By Bessie R. Murphy. pp. 4.
- The Sweet Potato As a Food.* By Bessie R. Murphy. Special Circular No. 1, pp. 4.
- What Every Home Maker Should Know About Foods.* By Bessie R. Murphy. Home Economics Circular No. 1, pp. 4.

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Contributions to the bibliography are welcome. Please send material to the JOURNAL.

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NEWS FROM THE FIELD

The Iowa Home Economics Association held its eighth annual meeting in Des Moines, November 2 and 3, with Miss Winifred Gettemy presiding.

An especially fine program was given.

Miss Amy Louise Daniels, University of Wisconsin, read a paper on The Teaching of Dietetics in a High School Course. Dr. Lenna L. Meanes of Des Moines gave a comprehensive paper and demonstration of The Value of Scoring and Judging Babies. Dr. Meanes used as subjects of the demonstration the "sweepstakes prize" baby girl of Iowa and a defective baby. Miss Clara E. Millerd of Grinnell in her paper emphasized the idealistic value of Pictures for the Home. A talk on The Teaching of Food and Household Management Courses was given by Miss Genevieve Fisher, Iowa State College.

The annual business meeting closed the day's program. The Committee, having in charge the investigation of Home Economics conditions in the state with the ultimate aim of a standardized course of study in Home Economics, is to continue its work under the direction of Miss Florence O'Leary of Mason City.

For the second program Mrs. Elbert W. Rockwood, Iowa City, gave a practical and inspiring address on Mothering a Community. Miss Ethel Ronzone of the University of Missouri spoke on Clothing in the High School. The Teaching of Sewing was given by Miss Celestine Schmit of the University of Wisconsin.

The conference was closed by Miss Helen Louise Johnson's paper, Training in Spending and Saving, which was most enthusiastically given and appreciated.

A Meeting of the Indiana State Home Economics Association was held in Indian-

apolis the last week in October with about six hundred present. Miss Mary E. Hall, librarian of the Girls High School, Brooklyn, spoke on The Importance of a Household Arts Library in our High Schools; Miss Lillian Lohmeyer, of Evansville, on The Modern Trend of Art; and Mrs. Mary Schenck Woolman, of Boston, on The Relation of Vocational Education to the Regular Schools.

On Friday afternoon Mrs. Woolman spoke informally at a Russian tea served by a Russian from a samovar, in true Russian style.

Ohio Home Economics Meeting. The annual meeting of the Ohio Home Economics Association was held in the new Home Economics Building at Ohio State University, Columbus, Ohio, November 10 and 11, 1916. About 150 people, representing various schools and institutions of the state, attended the meetings.

The meeting opened Friday afternoon with a short business session, presided over by Miss White of Ohio State University. Committees for the new year were appointed and general business of the Association was transacted. This was followed by two addresses: Fitting Home Economics Work to Community Needs, by Dean Vivian, College of Agriculture, Ohio State University; and Application of Home Economics to the Present Situation in Germany, by Sarah T. Barrows, Assistant Professor of German, Ohio State University. This was followed by a tea and an inspection of the new Home Economics building.

Saturday morning a short business session was held, after which the meeting divided into two sections: Institutional Section, with Miss Lulu Graves, Lakeside Hospital, Cleveland, as chairman; and Public

School Section, with Miss Edna White of Ohio State University as chairman.

An address, *The Present Status of Dietitians' Work in Ohio*, by Dr. J. H. J. Upham, member of the State Board of Examiners, was given in the Institutional Section, and a general discussion followed. The following officers of the Institutional Section were elected for next year: President, Miss Graves, Lakeside Hospital, Cleveland; vice-president, Miss Deaver, Christ Hospital, Cincinnati; and Secretary-Treasurer, Miss Skinner, Ohio State University. A committee was appointed to formulate recommendations to be presented to the State Board of Examiners, regarding the status of the work of dietitians in the State.

In the Public School Section the following topics were discussed: *Teaching Standards Through Domestic Art*, and *Home Economics and the School Lunch*.

After these discussions, the two sections reassembled for the final business meeting, and the following officers were elected: President, Miss Faith Lanman, Columbus, Ohio; Secretary-Treasurer, Miss Sarah Stimel, Akron, Ohio.

It was decided to make a survey of Home Economics Work in Ohio, to be reported at the next regular meeting, with the idea of standardizing the work given in the state.

Connecticut Home Economics Association. The fall meeting boasts an attendance that doubled the largest ever known.

The address by Dr. Benjamin R. Andrews on *The American Home*, was followed by a business meeting and luncheon.

A number of committees were appointed for definite work. The membership and questionnaire committees will jointly make a survey of the state; the budget committee will collect data for Dr. Andrews; and the committee on legislation will watch out for opportunities to foster bills on good label laws, honest label on clothing, domestic labor laws, and other bills.

The Utah Home Economics Association held its annual convention Thursday, Dec. 21, 1916, with the following program:

East Side High School—Business Meeting; "Art in the Home," Ida M. Savage.

Luncheon at Newhouse Hotel.

Barratt Hall—"The Food Problem," Rena B. Maycock and Blanche Cooper; "Milk and Mentality," Fred W. Merrill, Dairy Expert.

The Washington, D. C., Home Economics Association is conducting a series of lectures and demonstrations relative to Home Economics extension work.

Mr. O. H. Benson, of the Department of Agriculture, in charge of the Boys' and Girls' Club Work of the North and West, and Mr. George E. Farrell, of the same department, have given explanations and demonstrations that have caused the association to consider organizing a city home canning project.

New England Home Economics Association. The Section of Hospital Dietitians held a meeting at the New England Hospital for Women and Children, Roxbury, October 26, Miss M. E. Reed acting as chairman. Dr. Edith Hill Swift discussed *The Feeding of the Infant and the Child*.

The Association held an informal dinner at the Boston Women's City Club, November 17, at which Mrs. Ednah Rich Morse addressed the members and guests.

The Association regrets that the edition of the pamphlet on *Feeding the Family of Small Income* is out of print and will not be printed again.

A Richards Day Celebration. The joint meeting of Massachusetts Institute of Technology women and the New England Home Economics Association was held at the new Institute buildings in the Margaret Cheney and Emma Roger rooms.

It is interesting to note that many women are members of both associations, among them Miss Elliott and Dr. Blood of Simmons, Miss Hyams and Miss Kenny of Quincy Mansion School, Miss Lillie Smith of Brookline High School.

The decorations of the room were simple—the green of pines that Mrs. Richards loved

so dearly, brightened with the red of the berries, the color of which she was so fond.

About the rooms on cards 14 x 22 inches in size were quotations from her writings which brought her message to many again, perhaps a new message to some not familiar with her writings. These are as vital today as when she wrote them. The color scheme of "Tech" was used, the cardboard being gray and the printing red with the initial letter illuminated in gold.

Two requests came asking for them as loans for exhibits. They are first to be put up in one of the suburban high schools and then in a suburban public library. There were also many photographs and prints telling of Mrs. Richards' life through the pictures. Miss Mary Barrows loaned some half tones from the book—*Life of Ellen H. Richards*.

It was suggested that it might be worth while to get a group of pictures together that could be used throughout the country for such purposes as these were used, or for exhibits.

Mrs. Lewis Kennedy Morse (Ednah Rich) spoke of the influence of Mrs. Richards' life on her work, and read some lines from Professor Palmer which aptly described it.

Professor Sedgwick spoke of her contributions as a scientist, and her general knowledge of many subjects. This was the necessary outlook in the pioneer days when both she and President Rogers had the vision. Because they did not live in vain, but made their ideals a reality, specialists are needed today.

All there felt that Mrs. Richards had been the intermediary between science and the home and had made them one. Her science she applied to the home and to the homemakers she gave the science.

The National Special Aid Society is arranging for "An Experience Meeting" to be held at the Hotel Astor, New York City, January 23, 1917. This will give a rare opportunity to listen to and to consult many well known experts from the United States

Department of Agriculture, Yale University, Teachers' College, Milwaukee-Downer College, Pratt Institute, and various organizations in or near New York.

Money raised by this experience meeting will be used to carry on the work of the Home Economics Committee of the Society. Tickets at \$2 may be obtained at the office, 259 Fifth Avenue.

The Society is also announcing a course on Household Management to be given during Lent, Tuesdays and Fridays, at 11 a.m. Eight lectures, \$5.00.

During the fall there was given a course of twelve lectures on the art of spending. The topics of the lectures were: The Need for Wise Spending, Planning the Family Expenditure, Keeping Track of the Expenditure, How to Select Textiles, Keeping the House Clean, Training the Child to Eat, Planning the Family Meals, Buying the Family Supplies, Labor-saving Devices, Beauty and Utility.

Most of the lecturers were members of Pratt Institute and Teachers College faculties.

Brief Notes. Miss Myrtie C. Van Deusen who received her A. M. degree from Columbia University last year is now head of the Home Economics Department at Milwaukee-Downer College. Other new members of the Department are: Miss Nell C. Fields, sewing and dressmaking; Miss Sarah Porter, cookery and home nursing.

Miss Geraldine Hadley, president of the Home Economics Section, of the Indiana State Teachers Association, was formerly assistant professor of Home Economics in the State Agricultural College, North Dakota and has become director of the New Lunch Room, and instructor in Institutional Management, in the Technical High School of Indianapolis. This school was organized four years ago, with an enrollment of 180. There are now over 1500 students. With a most desirable location, and prop-

erty including seventy-six acres, and the current interest in vocational education in the state, this high school has a prospect of becoming one of the leading high schools of its kind in the United States.

Mrs. Henrietta Calvin, of the Bureau of Education expects to be at Rock Hill, S. C., January 15 to 22; at Montevallo, Ala., on January 25 and 26, and at Kansas City at the meeting of the N. E. A. on March 2.

HOME ECONOMICS MEETING TO BE HELD IN CONNECTION WITH THE N. E. A., IN KANSAS CITY, MARCH 2, 1917

TENTATIVE PROGRAM

The President, Dean Catherine MacKay, Iowa State College, presiding

MORNING SESSION

Greetings from the National Home Economics Association, by the President. Some Administrative Problems in Public School Home Economics Teaching, Mrs. Henrietta Calvin, Bureau of Education, Washington, D. C. Project Work in Teaching Home Economics—its Value and Limitations, Dean W. W. Charters, University of Missouri.

The School Luncheon as a Project in Teaching Foods and Cookery in the Elementary and High Schools, Miss Essie M. Heyle, Supervisor, Kansas City; Mrs. Mary McBaker, Memphis Vocational High School; Miss Jenny Snow, Chicago Normal College.

Basis of Choice of Projects in Clothing Courses in Elementary and High Schools, Miss Mabel Barbara Trilling, University of Minnesota.

AFTERNOON SESSION

Fundamental Inter-relation of Courses in Home Economics and Other High School Subjects, Miss Elizabeth Sprague, University of Kansas; Miss Josephine Berry, University of Minnesota.

Teaching the High School Students Their Responsibilities as Consumers, Miss Hildgarde Kneeland, University of Missouri.

A Consideration of the Subject Matter of Textiles as a Part in the Teaching of Clothing, Miss Anna Byers, Kansas City.

Principles of Design in Relation to the Teaching of Clothing and House Furnishing, Miss Holman, Kansas State Agricultural College; Miss Ethelwyn Miller, University of Chicago.

MRS. MARY P. VAN ZILE, *Chairman*,
Kansas State Agricultural College.

ELIZABETH SPRAGUE,
University of Kansas.

ESSIE MARGARET HEYLE,
Supervisor Household Arts, Kansas
City, Mo.

Program Committee.

THE

Journal of Home Economics

For those interested in Homemaking, Institution Management,
and Educational Work in Home Economics

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PART TIME EDUCATION IN HOUSEHOLD ARTS¹

CLEO MURLAND

A new note has been struck in education. It may have been sounding for some time past, but in the present world conflict attention has been directed to it so that laymen and educators alike recognize its purpose and its force. This new note is voiced in the press and in public speech as "education for service." Attention so long centered upon the personal career of the pupil is now bent upon education for the service which each individual must render to human society. It is bigger than the individual, or the family; than the state or the nation; it is world service. So deep has this thought been driven into the social consciousness of the people that coöperative measures in education, merely tolerated less than a decade ago, are today receiving the whole-hearted support of laymen, parents, social workers, employees, employers, and educators—a combined force which, if wisely directed, augurs greater advancement in education in the next generation than has been known in past years.

Education for service promises the most desirable development of the individual; hence the old ideal is merged into the new in a way which promises the best use of the old in the development of the new ideal. Education is, we believe, dedicated to flexibility which makes it possible to discover the service individuals may render, and to train them so that their talents may be utilized to their own satisfaction and the good of society. In this sense, we heartily approve of replacing the personal in education for the impersonal, altruistic ideal which

¹ Address delivered before the Home Economics Session of the National Education Association Convention, New York, July 4, 1916.

service to others implies. This spirit of education is to be welcomed in household arts education if it can eliminate the over-emphasis of the personal which has militated so strongly against its fullest success.

Education for service follows so close upon the heels of the movement for education for all boys and all girls, whether rich or poor, well endowed or less fortunate mentally, physically fit or unfit, as to merge them into one. Service is altruism, not commercialism, in the light of this interpretation. There are no longer any mental reservations in the statement "education for all." We all believe in it. There is no longer serious debate as to the inefficacy of one type of education for all. Individual differences are recognized and education is being shaped to meet them as they become defined.

Time is no longer wasted upon discussion as to whether the education of the boys and girls who enter the workshops, the stores, the factories, the offices, is completed when they have gained enough information to secure a position. Education beyond that which may be given in the schoolroom during the elementary school period, the high school period, and in all-day schools, no longer constitutes education according to modern standards. The workshop is being carried into the school and the school into the workshop. The tearing down of school fences, so that the school may spread out into community life, and community activities may enter the school, opens up educational possibilities little dreamed of a decade ago.

Having recognized different groups of people and worked out to some extent methods for educating them, as was shown in the varied program of this recent convention of the N. E. A., it remains for us to make education reach all the people and to spread it over as many years of their lives as possible; approximately from the ages of four to twenty-five years.

Obviously this cannot be accomplished in the all-day school of any type. Too few of our boys and girls can be expected to attend school beyond the compulsory school age, ranging in the various states from twelve to sixteen years.

For these young people a considerable part of their education must be secured after employment as wage-earners has begun. If the school may have the care and supervision of the education of young people to the age of sixteen, as seems likely, it can extend their general education very measurably, and give them such preparation for entrance into wage-earning occupations as will enable them to understand the de-

mands of industrial and commercial life and guard themselves against exploitation. If the school is allowed the further privilege of recalling the pupils to the school or taking the school into the workshop, the home, or the store, for part-time education for a period of years, *education for all* will become a reality. Learning will not be incompatible with earning, as it has been under the old régime.

Part-time instruction is the term used to designate types of instruction, compulsory and non-compulsory, which are given to young persons who have left school to go to work. Part-time vocational courses, coöperative courses, and household arts courses, given on a part-time basis, are so classified, and are so discussed here.

Who are to be taught the household arts? There is no disagreement among us as to the statement that all girls and women should be taught household arts as part of their general education. The problem is, When shall they be taught and how shall the instruction be given?

The sauce-for-the-geese-sauce-for-the-gander method, which during the pioneer days of this form of education established a place for these subjects in the school curriculum, and brought recognition for them that has reached far beyond the schoolroom, will no longer meet the demands of the girls and women who throng the schools, the homes, and the workrooms.

Household arts subjects are well established in the elementary and high school curricula. As general education they are meeting a great problem in the education of girls. There is room for improvement in methods of instruction and subject-matter. None realize this more than those engaged in the work, but like all elementary and high school education these subjects have been treated with an attitude of "completed" when the diploma has been awarded and the learning period for many young people has closed.

If the household arts—the arts of homemaking and housekeeping—are to reach their highest ideals and their fullest possibilities, they must go far beyond the instruction that may be given in the schoolroom to inexperienced young people. This early period of instruction should do one thing and do it so well that the after-effects would be inevitable. It should instill an interest in and intelligence about the problems of homemaking so thoroughly that the demand for further training in these subjects on a part-time basis after leaving the regular day school will follow when homekeeping becomes a definite responsi-

bility. The most effective learning results when the demand for knowledge is immediate.

The most successful results in household arts instruction will be secured when the instruction can be put into daily practice in a real home. Much of this is accomplished through the use to which school children put the knowledge gained in class, when assisting the mother in the work of the home. But this, valuable as it is, is but a fraction of the problem of homemaking which is the vision of those engaged in household arts education. The greater part of the training must be given in connection with the home itself when homemaking problems become a reality.

There are three fairly well defined groups to be reached by this part-time or after-school training: (1) the girls who remain in the home and assist in the household duties—girls who do not become wage-earners outside of the home; (2) girls who become wage-earners and are removed from any but incidental participation in household work, which under right conditions furnishes the best kind of training; and (3) women engaged as homemakers—the wives and mothers.

Girls who remain in the home and assist in the duties of the home get, under right conditions, the most valuable training in homemaking. There are the daughters of the rich, however, who are receiving little instruction because servants take the responsibilities that the daughters of the poor take in the division of the labor of the household, hence they are receiving little if any instruction in the performance of home duties and frequently no experience in managing the household which is the housekeeping problem of the wife in the well-to-do household.

On the other hand the daughters of the less well-to-do who remain in the home do not always have mothers who are progressive in their housekeeping methods. Many of these young women would profit greatly by part-time instruction in household arts related to the work which they do at home. This group represents an ideal situation for part-time instruction if teachers can get into sufficiently intimate relations with the home life of the pupils. The instruction may be applied daily, and free hours for study may readily be arranged. This group is a large one in the many country districts and the small non-industrial towns of the country, and represents in the aggregate some thousands of girls and young women.

The second group, those who go to work at wage-earning occupations which occupy the greater part of their time, is the most difficult one to

reach with part-time instruction, and their need for instruction in the theory and practice of household arts is perhaps most pressing, since they have practically no opportunity to pick up a knowledge of homemaking during their hours at home. This group will not be reached with part-time instruction in the household arts, to any considerable extent, until legislation makes part-time school attendance compulsory. Industry cannot be expected to pay for instruction which has no bearing upon the industrial efficiency of the workers. Part-time instruction for this group should be of a vocational character—instruction which increases efficiency in the wage-earning work. That this sort of instruction has value to the industry has been proved in many instances, and industry may reasonably be expected to pay the pupils for the time spent in school on the part-time basis. If the industrial employment is one which has bearing upon one of the household duties, it may serve both the wage-earning occupation and the home, but this possibility is too remote to permit of extensive planning of courses to this end. If any considerable number of wage-earning girls and women are to be reached with instruction in the household arts under non-compulsory conditions, it will be through the evening schools, which are already crowded with girls and women of ages ranging from seventeen to seventy who are seeking assistance in some phase of household arts.

The part-time class is preëminently suited to the housewife. She has immediate and pressing problems to be solved; she has abundant experience—oftentimes failures—to furnish the realistic situation that makes household arts more than vague theory; she has opportunity to put into practice the theories gathered through class instruction; and she usually has time during certain hours in the day to devote to the study of homemaking problems. Effort to get the housekeepers into the evening classes has been misdirected. Duties are often heaviest at the hour the evening classes begin. The afternoons and the mornings, when the noonday meal is not served in the home, offer the most convenient time for study for the housewife.

The methods of instruction used are of as great importance in the success of the work as careful grouping of pupils. Teachers realize that the housewife cannot be expected to study with a group of immature girls; or inexperienced girls, with a group of housewives whose achievements far exceed theirs. They also realize that the greater experience demands methods which closely approximate the best prac-

tice in the well managed household, while the less experienced group must be taught details of practice and management that have become so well established with the experienced group as to become almost automatic in practice.

If instruction in the household arts in these part-time courses, particularly for the housewives or in evening class for the women who work all day, is successful, it must have what the small boy calls "pep."

In the past the household arts teachers and leaders have held to the theory, unconsciously perhaps, that the home was wholly apart from the industrial and commercial life about us, that methods used in the workroom were not suited to the home even though adjustments in the workroom methods were made to suit the home. Instruction has been based upon old-fashioned and, in some instances, upon obsolete methods. The result has been, in many instances, much lower standards than the teachers anticipated, and disappointment to the pupils.

There is no desire upon anyone's part, so far as I know, to commercialize the home, but the home must compete with industry in the productive work of the home which is duplicated in industry. For this reason it is true that household arts instruction will profit greatly by making use of right industrial methods. Except for plain mending and renovation, home dressmaking as such no longer exists. The woman who attends dressmaking courses in the evening schools or in part-time courses does so because she wishes to learn methods by which she can produce clothing of as good style and attractiveness as her neighbors and friends buy in the store, or secure from the dressmaker. She also wishes to learn time-saving methods in her work. Making over old gowns is done on the same basis. Mending has also become a commercialized art and when the housewife learns these arts, she compares her achievements with the commercial product in these lines.

Dressmaking courses of the household arts type will accomplish their ends when they adopt commercial methods and commercial standards of work, and not the least of these will be the best use of time which makes home dressmaking a profitable occupation for the housewife, and not a means for proving that her time is of no value.

Millinery courses should be given with trade standards as the ideal also. The housewife who wishes to make her own hats desires to have them as attractive and well-made as those of her neighbor who buys them from the milliner.

The making of the family budget which is coming to have a prominent place in courses for housewives is clearly a business method adapted to home problems.

A great deal has been gained for the household through the commercial kitchen of the tea room and cafeteria. Through the hospital have come methods of efficiency and economy in sanitation of the home. Much of the value of spending in order to secure larger and more effective results in the household has come by the way of the commercialized household, which because of its demands was forced to take the venture denied the home until proof of the efficiency and economy was shown.

The place which we call home, which is in large measure *esprit de corps* and atmosphere rather than furniture and meals, whether simple or pretentious, cannot be marred by efficiency methods, if the right spirit exists in the household. Efficiency methods applied to the practice of the household arts leave more time to the housewife to practice true homemaking, the aim and ideal of household arts education. In so far as this is true the work of the home should draw from the business world for methods. The home and industry must be in harmony with each other in so far as they react upon each other, not at variance, if household arts instruction is to serve truly and effectively all women who become homemakers.

Part-time courses in household arts are, for the rank and file of women, the ideal means for teaching these subjects. They furnish a means for prolonged study of the manifold and complex duties of the home. They promise to women, engaged in the office or the factory, a means for securing training for homemaking when that responsibility is assumed. If kept abreast of the best practice of the commercial world with which they must compete, instruction in the highest ideals of the home and in the household arts, may be taught to every woman readily and effectively, no matter what her occupation may have been before her marriage.

Household arts education taught by this part-time method will demand teachers of broad social interest, women who can bend their scientific knowledge and specialized training to the development of education for service. The ideals of household arts education will remain high, but will be made sufficiently flexible to meet the needs of different groups of women and varying types of homes. A first-hand

knowledge of home problems will constitute an important part of their training; the ability to meet the home making situations intelligently, and to impart instruction relative to them, will replace the formal methods we now have. Household arts education under this new order has its great opportunity.

THE "PENN FAMILY" PROBLEM

ADA Z. FISH

William Penn High School, Philadelphia

In the William Penn High School, the senior girls of the Art and Home Economics course study budget making as a part of the work given in the so-called home management class. An explanation of the term budget is followed by a general discussion of the need of such a system in the home. Recently the clearness of the explanation was questioned when several of the girls in a written test used the term "bugget."

It seems a privilege to introduce Mrs. Richards to a group of girls who have never heard of her. Her ideal budget is discussed and the percentages represented graphically by means of the divisions of a circle. These percentages become the basis of our study and we build toward them, although we know they are impossible at the present time, especially the 25 per cent allowed for food.

An application of the principles of budget making is made by means of an imaginary family, consisting of five members. It seems appropriate that this family should be named Penn and that historical facts should be used to give added interest to the problems.

The "Penn Family" is determined as to the name, the age, and the sex of its members. Certain pupils are appointed to look up the history of William Penn and his family. William Penn is always the father and thus far Hannah Callowhill Penn has been the mother. Gulielma Penn was really the first wife of William Penn but the girls prefer the simple name of the second wife. There is always a Letitia Penn who is supposedly one of the girls studying the problem. The other members of the family vary. At present there is a Richard Callowhill Penn.

Margaret Jasper Penn was a grandmother last year but now she is a baby one year old.

William Penn has usually been a floor walker but now he is a clerk in a Life Insurance Company. The decision to change his occupation was largely due to the fact that he would receive a free luncheon, served in an attractive dining room, and under the supervision of a trained dietitian.

William's salary is \$1200. That is undoubtedly a higher income than is represented in the homes of many of our girls but we wish to keep the children in school and hold to certain standards of living.

Each girl brings to the class definite data as regards a house she would like the "Penns" to live in. This need not be her own home nor even in the neighborhood where she lives. Some of the fathers go house-hunting with their daughters to find a house suitable for the "Penn Family." Lists of these houses are made in the note books as they are discussed and finally the location is settled by a vote of the class. The "Penns" are now living on Spencer Street and are paying \$21 per month for rent. William can walk to business during pleasant weather and Letitia and Richard are within easy walking distance of the schools which they attend.

Operating expenses are taken up in a similar way. By this time the personal element enters in. "We have the same number of rooms, why do we burn so much more coal than Mary Smith's family?" "Why are our gas bills higher?" It takes some energy and tact to bring about an agreement as to what the "Penns" shall allow for operating expenses. Usually we are able to learn just what the family in the real house are spending.

The clothing for each member of the family is worked out in detail; every girl is required to bring in her lists. The amounts are first compared and then usually the lowest one is taken to discuss and build upon. A year ago one of the girls brought in a budget for William's clothing amounting to \$35 for a year. The rest of the class were very much amused but Evelyn said very forcibly, "It is possible, because my cousin's clothing only cost that much last year." It seems the cousin had left his home because of some difficulty with his parents. By means of his automobile, he was earning his way through college. Of course it was easy to understand that such a young man would have a goodly supply of clothing with which to start.

The food problem is handled by the teacher of dietetics. A committee is appointed of which Hannah Penn is chairman. Each member of the committee presents menus for the meals of the "Penns" for a day. These menus are discussed and a decision is made as to which ones shall be prepared. The market order is then made out. The following day Hannah is given the money and she with her committee buys the food at the market. The teacher accompanies the class but Hannah is responsible for the buying and for carrying the basket of food back to the school and taking the proper care of it. All three meals are prepared at one time. They are brought together and are discussed as to quality, quantity, and food requirement. The meals are served in good form, one of them in the dining room, using home service. William carves the meat, Hannah pours the tea, and Letitia serves the dessert. The cost and dietetic value of the meals are carefully worked out. Interesting comparisons are made between costs in the regular market and in the retail stores. The problem is repeated until the meals for a week have been prepared. Their cost multiplied by fifty-two gives the expense for food. Thirty-seven per cent of the income was used for food by the last class.

In the question of the "higher life" we come face to face with the same problem that confronts the average family. With a salary of \$1300, we were able to meet the requirements fairly well but with the salary of \$1200, Richard must help. Now, he is earning \$3 a week delivering flowers for a florist after school and on Saturday. This happens to be just what a boy, known to one of the girls, is earning.

This problem also correlates with our house planning and furnishing that is taken up in the art class. An apartment is furnished in which Letitia is to begin housekeeping. The furnishings are in the form of a loan exhibit from a Department Store. The girls, with their teacher, study the furniture at the store and after a class discussion decide upon the various articles. The rugs belong to the school because the wear is naturally hard upon them. We can have, from the store, china, pictures, in fact anything we wish. Experts are appointed to lecture to the girls and every possible courtesy extended. Everything is returned at the end of the year and the problem is worked out anew.

COURSES IN SEWING FOR ELEMENTARY AND HIGH SCHOOL AND THEIR CORRELATION WITH DRAWING

MARTHA H. FRENCH

Director Textiles and Clothing Department, State Normal College, Ypsilanti, Michigan

Sewing in our schools for a long time meant the teaching of a few stitches and seams and the application of these to garments more or less simple. If a child had made the stitches on some little patches of cloth, models so-called, she was then ready to begin making simple articles and after these, garments of some kind. Progressive teachers are now beginning to realize that such teaching is but a small part of the broad training which should come under the head of sewing in the grades and high schools. If our courses were spoken of as courses in clothing rather than in sewing it might give opportunity and inspiration for a broader treatment of the subject. Of course, any child must learn to sew by learning to do various stitches; but the reason for teaching the stitches on small patches of cloth and then, as is done in many schools, mounting these in books and grading them 65 or 90 per cent passes the comprehension of thinking mothers, and, I am happy to say, of thinking teachers.

Clothing is a subject that can easily be brought into close correlation with almost every subject in a school curriculum; in fact it involves many subjects as a part of itself. Yet in many schools none of this interrelation is made evident, and the teaching of seams and garments is the sum total of the sewing courses; not even the materials and the cost form any part of the definite work.

The history of clothing is as fascinating as it is profitable, and through its study we realize how fashions are influenced by the political conditions in a country. The history of a country, in its making, sways the fashions.

Physics is related to the study of clothing since it is important in discussing protective power against heat, cold, and moisture, and in connection with mechanical apparatus, such as sewing machines, shears, irons, and mechanical testing devices. The examination of fabrics and textile fibers with the microscope involves optics. Chemistry is related through the action of cleaning reagents upon the various textile fibers and the chemical methods for testing textiles. Physiology and hygiene teach one what to wear in order that the body may be

properly protected and at the same time muscular movements, body development, and normal body functions be unrestricted. Languages may be useful for historical books on costume; but most necessary of all these subjects, and underlying all sewing, should be drawing and design.

When there is no correlation with the art work three reasons usually explain this lack: first, the sewing teachers know so little of the principles and mediums of the artist that they cannot suggest correlation; second, the art teachers know so little of the principles and mediums used in sewing that they, in turn, cannot suggest means for unifying the work; and third, neither instructor is willing to make the necessary concessions to bring the two subjects closer together, nor does either care to give the time and effort required to develop successfully a series of lessons which shall be sequential both in sewing and in art.

A few definite suggestions may prove helpful in bringing these subjects nearer together.

Because of the lower cost of installation, sewing instead of cooking is usually begun in the fifth grade; and, lest the child's interest be killed and her eyes and her nerve force be overtaxed, the problems must be extremely simple. They should touch so closely the life of the small worker that her zeal is keen to do well each stitch.

The inspiration must vary with each class as the situation demands. It may be that to be making a gift for mother will suffice, or an article of use in the child's own life may give the keynote. Certain it is that there must be something to give zest if small children are to be trained to sew well and happily.

Every article made by these children should be designed under the direction of the art teacher. For example, suppose in the fall, while each department is getting under way, a simple doily of India linon be made. An inch hem is turned, basted, and chainstitched around the central square; the corners from the chainstitching to the edge are hemmed down, and the open ends of the hem are overhanded. These very short spaces to sew aid in intense effort for tiny stitches. Along with this work are given suggestions as to attractive uses for doilies; and the finished article is pressed and well wrapped as a gift for mother. Four of these may be made from one yard of material, and a ball of D. M. C. will chainstitch a great many. The cost is about 8 or 10 cents, depending upon the quality of India linon, suggesting that daintiness may be had at small cost.

While this is in the process of construction the time in drawing may be utilized in designing the next article, a sewing bag, studying its proportion, and decoration; or an oval holder with block printed or stenciled design; a sewing apron with linear design for feather stitching; sofa cushions with straight line designs for braiding with either soutache or coronation braid; or designs for applique figures for runners or cushions.

Working drawings or pattern drawings may be made for silver cases, pencil holders, shoe bags, or paper and string bags, any of which are appropriate work for the early grades, and serve as excellent foundations for the study of lines, proportion, spacing, unity, color, and harmony.

In the lower grades the sewing instructor rarely has access to sewing machines for her classes, and in consequence her plans must cover only such articles as can properly be done by hand, and this forbids long seams and tedious processes, but does not alter the possibilities for the study of design and color.

In the seventh and eighth grades, if a whole or part of the year is given over to sewing, it is necessary to have sewing machines. At this age students are beginning to care for clothes, and it is a desirable time to teach something of the hygiene of clothing, as well as good taste and appropriateness in dress. The opportunities for the art teacher are now greatly increased, both through the age of the students and the class of articles to be made.

To connect this with the previous art work and utilize principles already taught, underclothes may be planned with linear designs for feather stitching, either alone or in combination with other forms of embroidery; groupings for tucks and, if desirable for occasional use, more complicated patterns for setting in lace or embroidery insertion may be worked out.

Simple house dresses and separate blouses may follow and with these the continuation of color studies, harmony of colors, the effect of lines, of spots of color, the placing of decorations in such a way that pleasing spaces may be kept. Motifs for embroidery and conventional designs may be developed. Many of the paintings of the old masters would give wonderful suggestions along this line, and, at the same time, aid in familiarizing the students with these pictures.

High school work in clothing will cover what has been suggested for seventh and eighth grades, if these grades do not sew, continuing further with a study of wool fabrics and the making of a wool skirt and sepa-

rate waist, or a wool dress. The art department will give instruction in suitability of design and decoration to material; and of design, material, and color to figure. A silk shirtwaist, lawn dresses, simple and attractive, all give opportunities for study in art.

In millinery, also a high school subject, the art department may aid in making the students observe with definiteness. How many women ever see a hat in inches? Surprisingly few can tell you with anything like exactness the height of a hat crown or the width of a brim.

We are not trained to take in detail rapidly. If the whole effect is pleasing and satisfying there should be a definite reason why, and the younger women, the women of tomorrow, should have a training in the principles of art that would answer the why. The Century Dictionary says art is "the exhibition of the power of perceiving the beautiful, and of expressing it in beautiful forms," and to the art and the clothing teachers working together be the fulfillment of this definition.

Each department has, besides, its own problems to work out. In sewing, these problems are the care of clothing, including the cleaning and pressing of clothing and the proper airing of garments; the cost and economic study of production of materials and ready-to-wear garments; labor laws, the Consumers' League, and other topics valuable to the consumer.

For such a study of clothing surely no one will hesitate to grant educational value. We who teach sewing and beg for recognition must prove our cause to be more than the making of garments, suitable and attractive, which is in itself something; we must add to this the real underlying principles that give educational value to our subject, by broader teaching.

CORRECTION

On page 637 of the December JOURNAL, in the quotation of Ford and Pryor's work, the statement should read "These investigators consider it safest to boil the milk from 1 to 3 minutes" (not 10 to 30 minutes as stated).

RECENT ADVANCES IN OUR KNOWLEDGE OF DIGESTION
AND ABSORPTION

LOUISE STANLEY, PH.D.

University of Missouri

A review of the physiological literature of the last year brings to light many interesting and valuable additions to our knowledge of the conditions of digestion and absorption. Especially in the field of gastric digestion have there been important advances made. The greater portion of this work comes from Carlson and his students at Chicago working on a human subject with a gastric fistula, and with Pawlow dogs, and from the students of Rehfuß and Hawk at Jefferson Medical College, working on human subjects with the Rehfuß stomach tube.

Carlson¹ reported last year the results of some very interesting work on Mr. F. V., a worker in his laboratory, with complete closure of the esophagus and a gastric fistula since the age of seven. This article was reviewed last year but we may briefly sum up his conclusions: (1) The fluid content of the empty stomach varies but the general average does not exceed 20 to 25 cc. (2) There is a continuous secretion in the empty stomach. (3) Chewing inert substances produces little effect on gastric secretion. (4) Secretion produced by seeing, smelling, or thinking of food is slight and inconstant. (5) There is an increase on chewing and tasting palatable foods. (6) There is a direct relation between the palatability of food and the rate of secretion. (7) Latent period of the appetite secretion depends upon the condition of the gastric glands. In some cases there is no latent period. It varies also with the intensity of the appetite stimulation.

In a later article² Carlson gives the results of the continuation of the above experiments with special emphasis on the composition of normal human gastric juice. His figures on the appetite juice are especially valuable because he was able to obtain samples unmixed with food or saliva. (1) The acidity when secreted above a certain minimum rate is practically constant—a total acidity of 0.5 per cent HCl. That secreted at lower rate showed a lower total acidity and chlorides. (2) The normal acidity found equals the acidity reported in so-called cases of hyper-acidity. There seems to be no evidence that the stomach can

¹ Carlson, A. J., Secretion of Gastric Juice in Man, *Amer. Jour. Physiol.*, 37, (1915) p. 50. See review of article, *JOURNAL HOME ECONOMICS*, December, 1916, p. 631.

² Carlson, A. J., Composition of Normal Human Gastric Juice, *Amer. Jour. Physiol.*, 38, (1915) p. 248.

ever secrete more than this percentage of acid. The difficulty in cases of hyperacidity seems to be due to an upset of the mechanism for the neutralization of the excess of acid in the stomach rather than to a secretion of too much acid. (3) The high acid of the gastric juice is under ordinary circumstances neutralized by regurgitation of the alkaline fluid from the intestine. (4) Pepsin is always present in excess of the needs of normal digestion.

Rehfuss³ has devised a stomach tube which he is able to insert into the stomachs of human subjects and leave there for varying lengths of time without discomfort or irritation. The subjects, after swallowing this tube, are given test meals, and, by removing small amounts of the stomach contents at five minute intervals, he is able to follow the curve of digestion. Hawk, Rehfuss, and others at the Jefferson Medical College have obtained much interesting data on the composition of normal gastric juice. A résumé of this is found in the article cited above. They conclude: (1) the acidity of the pure secretion varies between 0.3 and 0.4 per cent of HCl instead of the 0.2 per cent of the clinicians. (2) There is a definite psychic secretion varying from sixty to eighty minutes, perhaps longer, if the stimulation is kept up. (3) There is no latent period. (4) The chemical secretion comes early in the first hour. (5) After the administration of atropine there is a reduction in both the quantity and acidity of the psychic secretion.

The chief point of difference in the results of Carlson and of Rehfuss and Hawk seems to be in regard to the percent of acid in the gastric juice when it is secreted. This can be explained by the fact that Carlson worked on the unmixed juice, while under the Rehfuss method the tests were upon the mixed gastric contents.

Talbot⁴ used the technic of Rehfuss in determining the secretory curve of a number of normal individuals. He concludes that the contour of a normal curve of gastric secretion depends upon (a) intensity and duration of appetite secretion induced by test meal, (b) amount of gastric mucus, (c) concentration of food secretion, and (d) emptying time of stomach.

Rehfuss and Hawk and others⁵ confirm Carlson's finding that the ingestion of 0.5 per cent HCl is followed by a fall of acidity to about 0.2 per cent due to the regurgitation from the small intestine. They

³ Rehfuss, M. E., The Normal Gastric Secretion, *Amer. Phil. Soc.*, 55, (1916) p. 461.

⁴ Talbot, E. S., *Jour. Amer. Med. Assn.*, 66, (1916) pp. 1849-52.

⁵ Spencer, Meyer, Rehfuss and Hawk, Effect of Duodenal Regurgitation on Gastric Function, *Amer. Jour. Physiol.*, 39, (1916) p. 459.

question Cannon's finding that free acid is necessary for the opening of the pylorus since the stomach emptied itself while the contents were still alkaline. The mechanism of duodenal regurgitation has been studied by Hicks and Visser.⁶

Investigating the therapeutic use of bitters as a stimulant to the secretion of gastric juice Moorhead,⁷ working on animals, and Carlson⁸ on human subjects as well as dogs, both conclude that bitters neither increase the pepsin nor the acid content of the gastric juice. Any value they may possess is, according to Carlson, due to psycho-therapy—"Medicine is potent in proportion to its bad taste."

Saxl⁹ in a study of carbohydrate fermentation in the stomach concludes that in a stomach with normal motility no fermentation takes place, even when living yeast cells are taken with the carbohydrate food. There is no difference in the degree of digestibility of bread raised by yeast and by baking powder, showing that digestion is not affected by the possible presence of unkilld yeast cells.

Rogers and Hardt¹⁰ and Patterson¹¹ have studied hunger contractions. The former conclude that tasting acid, sugar, swallowing water, or 0.36 per cent HCl in small quantities (10 to 25 cc.) does not inhibit muscular rhythm, while it immediately arrests hunger contractions.

Optimum conditions for pepsin activity are discussed by Hamburger and Halpern.¹² Pepsin may be inactivated by the addition of salts. NaCl in concentration of 0.1 per cent accelerates the action of pepsin; neutral salts behave similarly. Alkaline salts are much more strongly inhibitive. HCl inhibits in concentrations of 0.7 to 0.9 per cent.

Maxwell¹³ found that colloidal starch adsorbs pepsin. According to this author one of the most important functions of the ptyalin of the saliva is to hydrolyze the starch to non-colloidal forms.

⁶ Hicks and Visser, The Mechanism of the Regurgitation of Duodenal Contents into the Stomach, *Amer. Jour. Physiol.*, 39, (1915) pp. 1-8.

⁷ Moorhead, Louis D., *Jour. Pharm.*, 7, (1915) pp. 577-589.

⁸ Carlson, A. J., *Jour. Amer. Med. Assn.*, 64, (1915) p. 15.

⁹ Saxl, Does Carbohydrate Fermentation Occur in the Normal Stomach? *Wein Klin. Wochschr.*, 28, (1915) pp. 1135-36.

¹⁰ Rogers and Hardt, The Relation Between the Digestive Contractions of the Filled and the Hunger Contractions of the Empty Stomach, *Amer. Jour. Physiol.*, 38, (1915) p. 273.

¹¹ Patterson, J. L., Comparative Studies in the Physiology of the Gastric Hunger Contractions in the Amphibia and Reptilia, *Amer. Jour. Physiol.*, 40, (1916) p. 140.

¹² Hamburger and Halpern, *Arch. Intern. Med.*, 18, (1916) pp. 228-234.

¹³ Maxwell, The Relation of Salivary to Gastric Digestion, *Biochem. Jour.*, 9, (1915) pp. 323-329.

There has been less work reported on salivary digestion. Gies¹⁴ finds that acid saliva after filtration may be alkaline due to the separation of colloidal acid mucinate. This invalidates many conclusions formerly reported on the reaction of saliva since filtered saliva was so frequently used for the tests. Marshall¹⁵ discusses the relation of the reaction of saliva to dental caries. Halta¹⁶ found that the salivary diastase content was not directly influenced by the kind of food. Tannic acid in small amounts inhibited the diastatic action of the saliva while sodium nucleinate magnified it tenfold when in a concentration of 1.5 per cent. Below this concentration there was no effect and above 3 per cent it inhibited action. More of the diastatic enzyme was found in the saliva secreted during chewing than in that spontaneously flowing into the mouth. Saliva secreted under the influence of citric acid was very high in diastatic power.

In a study on the effect of excluding the pancreatic juice from the digestive tract, Pratt¹⁷ finds a diminished absorption of nitrogen and fat, only 75 per cent of the nitrogen and 66 per cent of the fat being absorbed. Long and Hull¹⁸ in their experiments on the administration of ferments as remedies in disorders of digestion, using commercial digestive extracts kept under varying conditions, conclude that under the conditions normally present in the stomach a portion of an active trypsin is unimpaired by the action of pepsin and acid, and passes in the chyme. When the acidity is reduced in the intestine this produces a normal protein digestion. Commercial trypsin given by mouth should then be effective. Carlson¹⁹ shows that when secretin is given by mouth it is destroyed before reaching the blood and so is non-effective in stimulating the flow of the pancreatic juice. In greater concentration it is effective if injected intravenously, but the preparations at present are not pure enough for such use.

Okada²⁰ finds the reaction of the bile varying from alkaline to acid. In

¹⁴ Gies, W. J., An Interesting Fact Regarding the Reaction of Saliva with Phenolphthalein, *Jour. Allied Dental Soc.*, 11, (1916) pp. 273-274.

¹⁵ Marshall, J. H., An Acidimetric Study of the Saliva in the Relation to Diet and Caries, *Dental Items of Interest*, 38, (1916) pp. 116-127.

¹⁶ Halta, Diastatic Action of Human Saliva, *Mitt. Med. Fak. Univ. Tokyo*, 14, (1915) No. 3. *Chem. Abs.*, 10, p. 1679.

¹⁷ Pratt, Joseph N., Effect of Excluding the Pancreatic Juice from the Intestine on the Absorption of N. and Fat, *Amer. Jour. Physiol.*, 40, (1916) p. 146.

¹⁸ Long, J. H., and Hull, Mary, Assumed Destruction of Tyrosin by Pepsin and Acid, *Jour. Amer. Chem. Soc.*, 38, (1916) pp. 1620-1638.

¹⁹ Carlson, A. J., Has Secretin a Therapeutic Value? *Jour. Amer. Med. Assn.*, 66, (1916) pp. 178-185.

²⁰ Okada, Reaction of the Bile, *Jour. Physiol.*, 50, (1915) pp. 114-118.

fasting animals the acidity is higher than after feeding; various kinds of food had no influence on the acidity. Rogers²¹ found that bile modifies the intestinal flora by favoring the development of certain bacteria, such as *B. coli*, at the expense of certain others, notably anaerobic organisms which are the most important factors in toxicity and putrefaction. Of still greater importance is the fact that it diminishes the production and action of bacterial enzymes and neutralizes the intestinal toxins.

Gurewich²² made a study of the intestinal digestion in a person seven months after 157 cm. of the ilium had been removed. He found that only 52 per cent of the nitrogen was assimilated and the fats were but partially digested. The patient was gaining in weight in spite of a persistent diarrhoea.

Higgins²³ determined the time elapsing before alcohol and sugars may be utilized by a study of the respiratory quotient. He finds: (1) Alcohol begins to be burned in appreciable quantities in from five to eleven minutes after taking. With some subjects the combustion began sooner than with others. (2) Sucrose, lactose, and levulose begin to be burned quite as soon as alcohol if not sooner. (3) Glucose and maltose are not utilized as soon as the other sugars or alcohol. Approximately twenty to thirty minutes elapse before their combustion plays an important part in metabolism.

During 1915 there were two researches reported on the comparative digestion and absorption of fats. Langworthy and Holmes²⁴ conclude from a series of experiments on animal fats that fats of as low or lower melting point than that of the body fat are capable of more complete assimilation than those of higher melting point. These experiments are being continued on many different kinds of fat. Hawk and his co-worker²⁵ show that hydrogenated fats are as satisfactorily digested and utilized as the natural fats. (See also work reported on fat in Bibliography of July JOURNAL, p. 399.) This conclusion has been supported

²¹ Rogers, The Anti-Putrefactive Role of the Bile, *Ann. Inst. Pasteur*, 29, (1915) pp. 545-550. *Abs. Chem. Abs.*, 10, p. 1050.

²² Gurewich, Intestinal Digestion in Man After the Excision of a Large Part of the Lower Intestine, *Abs. Jour. Amer. Med. Assn.*, 65, p. 2128.

²³ Higgins, H. L., Rapidity with which Alcohol and Some Sugars may Serve as Nutrient, *Amer. Jour. Physiol.*, 46, (1916) pp. 258-265.

²⁴ Langworthy and Holmes, Digestibility of Some Animal Fats, U. S. Dept. Agr. Bul. 310 (1915).

²⁵ Smith, Miller and Hawk, Studies on the Relative Digestibility and Utilization by the Human Body of Hydrogenated Fats, *Jour. Biol. Chem.*, 23, (1915) pp. 505-511.

by various investigators abroad. This is important in view of the increasing use of the hydrogenated fats as food. Carlson and some of his co-workers²⁶ determined the utilization of glucose by white rats. They found they grew well when this was added in large amounts. A post mortem examination revealed no lesions that could be traced to glucose. There seems to be no reason why commercial glucose should not be used as food.

Blake²⁷ worked upon the chemical composition and digestibility of bread. He could find by means of the polariscope no reason for the greater palatability of homemade bread. It would seem that under physiological conditions most of the amyloses are changed to dextrine in the mouth and these dextrines and most of the amylopectin and its products of hydrolysis are digested in the stomach. The amylocellulose is mostly digested in the intestine. Stale bread digests very slowly unless its gluten is completely broken down.

Langworthy and Holmes²⁸ in a study of immature veal find that it is quite as well digested and absorbed as other meat. The old idea of the indigestibility of very young veal is apparently only a prejudice and entirely unwarranted. The same authors²⁹ find that when the hard palates of cattle are ground and made into beef loaves about 86.8 of the nitrogen is utilized. This is somewhat less efficient utilization than in the case of other meats but more efficient than in the case of the nitrogen from vegetable foods.

Bateman³⁰ has published some interesting results upon the digestion of egg-white. He found that raw eggwhite in any large quantity may cause diarrhoea in dogs, cags, rabbits, and man. It is utilized only to the extent of 50 to 75 per cent. After several days subjects acquire a certain tolerance so that its utilization is improved and it no longer causes diarrhoea. Eggwhite may be made more digestible by coagulation by heat, by precipitation with alcohol, or by treatment with chloroform, ether, acids, alkalies, or pepsin. Egg yolk either raw or cooked is excellently utilized.

²⁶ Carlson, Hektoen, and Le Count, Effects of Commercial Glucose when Fed to White Rats, *Jour. Amer. Chem. Soc.*, 38, (1916) pp. 930-936.

²⁷ Blake, J. C., Digestibility of Bread, *Jour. Amer. Chem. Soc.*, 38, (1916) pp. 1243-1260.

²⁸ Langworthy and Holmes, Digestibility of Very Young Veal, *Jour. Agr. Research*, 6, (1916) pp. 577-588.

²⁹ Langworthy and Holmes, Digestibility of Hard Palates of Cattle, *Jour. Agr. Research*, 6, (1916) pp. 628-641.

³⁰ Bateman, The Digestibility and Utilization of Egg Protein, *Jour. Biol. Chem.*, 26 (1916) pp. 263-291.

THE HOME ECONOMICS PRACTICE HOUSE AT THE OREGON AGRICULTURAL COLLEGE

AVA B. MILAM

Head of Home Economics Department

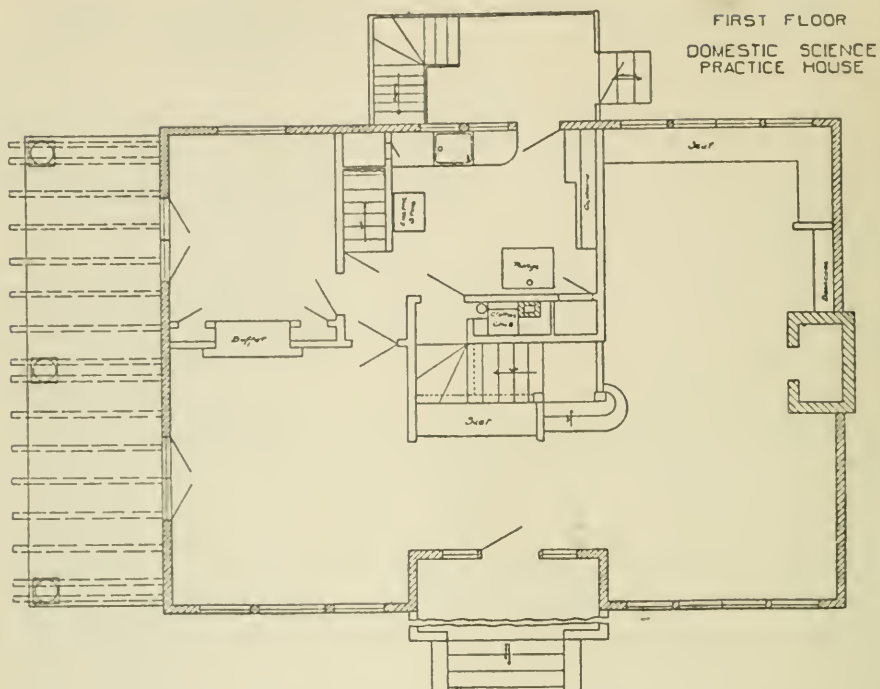
In June, 1916, the School of Home Economics of the Oregon Agricultural College added to its curriculum a Practice House course offered as an elective subject ($\frac{1}{2}$ credit per week) for juniors and seniors.

Each student electing this course spends six weeks in the Practice House, and while there is expected to carry not more than 14 additional credits, making her total registration 17 credits for the entire semester.

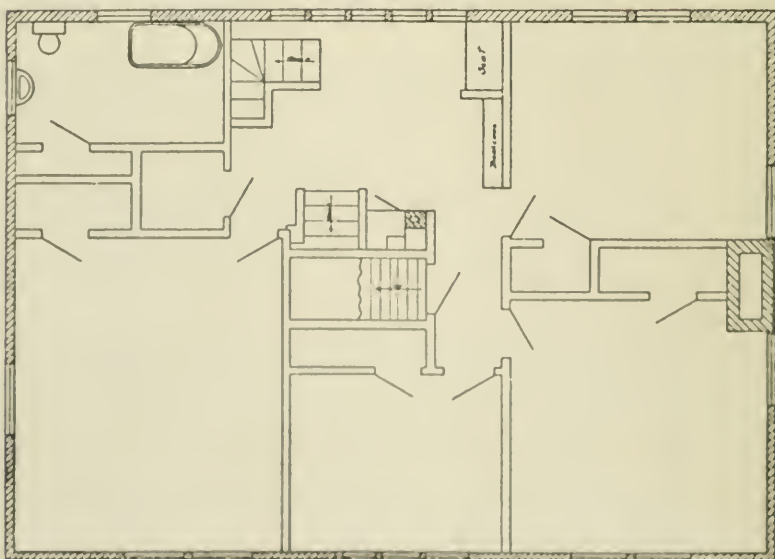
Changes in the personnel of the house are made every three weeks, so that no more than five or six new students assume their duties at one time. The change of instructors is made at a time when all the students are familiar with the household duties.

The course is conducted by six members of the Domestic Science staff, who serve in the capacity of resident instructor for a period of from four to eight weeks each. This temporary arrangement was considered advisable for the first year, and the most significant result hoped from such a plan was more thorough acquaintance and interest, on the part of the department as a whole, with the problems of the course, and, therefore, better solutions to these problems. The plan to have one instructor (preferably one who has had experience in the house) in charge of the course during the subsequent years was put in operation in September, 1916.

The building is not owned by the college but leased with an option to buy. The Domestic Science Department pays a yearly rental of \$360, \$50 for taxes, and \$50 for the upkeep of lawn. College rates are obtained for electricity, water, and lights. The college has spent \$325 in the purchasing of single beds, bedding, towels, dining room furniture, and kitchen range. Some of the furnishings were left in the house by the owner. The living room was furnished with rugs, wicker chairs, settees, and table, presented by the Oregon Commission of the Panama Pacific International Exposition as a token of appreciation for the work of the young women of the Domestic Science Department of the college in conducting a lunch room in the Oregon Building during the Exposition. The kitchen has a wood and an electric range, and the laundry a water motor washer, electric irons, and the necessary equipment of a modern home laundry.



SECOND FLOOR
DOMESTIC SCIENCE
PRACTICE HOUSE



It is hoped that the college will purchase the house in perhaps two years and at that time a few changes will be made, namely: the wall between the breakfast room and kitchen will be taken out, giving us the larger kitchen, that we need. The large attic will be converted into a sleeping room by putting in dormer windows and changing it slightly. This will make it possible for the rooms on the second floor to be used for dressing rooms and study rooms.

Each of the eleven students in the house is charged \$5 per week. No charges are made to the instructor. The house is entirely self-supporting. Thirty-three cents per day per individual is allowed for food material, thirty-five cents for each dinner guest, and twenty-five cents for each breakfast and luncheon guest. Many staples are bought in as large quantities as should be bought in the average home where economy is considered. The other materials are purchased by the individual managers, who pay cash and take receipts, so that accounts are kept with little difficulty. At the end of each manager's régime, her account is submitted to the instructor in charge and an inventory is taken which is handed on to the subsequent manager. So far, all but one manager has kept well within the amount allowed for food material.

The following outline indicates the division of the work:

Hostess and manager. Superintends the house, holding each girl responsible for her special duties. Plans all meals, does all the buying, and pays all the bills.

Cook. Assists the manager with planning all meals and does the cooking. Cares for the kitchen, kitchen closets, and refrigerator.

Assistant cook. Assists the cook, sets table for meals and prepares the dishes for dishwasher after meals. Washes dishes on wash days.

First maid. Cares for the dining room, living room, and front stairs. The floors are wiped twice a day. She is also responsible for the fire in the fireplace.

Second maid. Sweeps the walk, porches, pergola, and basement stairs. Cares for the furnace and basement. Serves the meals.

First chamber maid. Cares for two west bedrooms, upstairs hall, and back stairway. Assumes the duty of an assistant laundress on wash days.

Second chamber maid. Cares for east bedroom, faculty member's room, and the bath. Assumes the duty of third assistant laundress on wash days.

Head laundress. Gathers and sorts clothes. (The laundry consists of first and second cooks' personal laundry, table linen, doilies, and pillow cases. This gives the students practice in home laundry problems. The sheets, hand, bath, and dish towels are sent out.) Superintends washing, assisting with the work. Keeps the linen in order.

First assistant laundress. Assists head laundress. Wipes dishes every day except wash day.

Dishwasher. Washes dishes every day.

General helper. Cares for down stairs bedroom. Renders assistance wherever needed. Takes care of attic.

These positions are held for a period of five days. Each student, as far as possible, advances from the least important to the most important position. Each student is expected to hold the position as hostess and manager, either cook or assistant cook, first maid or general helper, second maid, first or second chamber maid, head laundress or first assistant laundress, and dishwasher. Each student assumes her duty immediately after breakfast on the day of her appointment.

The following quotation from the student paper indicates the general attitude of the students who have taken advantage of this course:

No domestic science senior student can afford to miss this course. It is a test and seal on the work of the three previous years. Her returns from this course are manifold; she learns coöperation in working with others; she develops confidence and ingenuity; promptness is forced upon her, for meals must be served on scheduled time. Besides this and the general knowledge of how to manage a home, she learns to know what she herself knows and is brought to realize her own capacity. There is a social life present in the house unlike any other obtained in college life. The students of the house say in unison, "You cannot afford to miss it, for it is certainly worth while."

This course is proving to be one of the most popular and valuable courses in the school. It is giving not only valuable experience to the young women who are electing the work, but it is affording the Domestic Science staff an excellent opportunity to come in closer personal contact with the students, from which much is to be gained. Through this course the department is better able to estimate the girl's ability to apply her knowledge in a practical way, to manage, to coöperate, and to meet emergencies; her judgment, honesty of purpose, and ideals can be judged much more fairly than is possible from her record in any other course in the school.

FOR THE HOMEMAKER

FOOD AND THE BUDGET

HELEN LOUISE JOHNSON

Something over sixteen years ago there was published the first edition of Mrs. Ellen H. Richards' book on *The Cost of Living*. It begins with statements concerning the prevailing high cost of household necessities, and the great waste daily occurring in the individual homes of this country.

In the discussion of the adjustment of family budgets, this statement is made:

From the examination of various budgets and from observation of many families, as well as from twenty-five years' experience in housekeeping, I am convinced that the tendency to extravagance in the American household comes in the two columns of food and operating expenses. In food I believe the trouble is largely one of waste.

Nearly every year since 1900 there has been more or less public discussion of the increasing price of various household commodities, food stuffs usually being the center of attack. During the fall of 1916 this matter of the high cost of living had reached a sufficiently acute stage to cause considerable agitation, and to have drastic remedies suggested and applied, among them the unintelligent method of the boycott. For no one can possibly argue that a boycott either educates or influences the primary cause of any effect. It is a method of punishment or intimidation, and may or may not reach the actual offenders.

The prices of other necessities such as coal, paper, shoes, ink, and so forth, have risen, but no one talks of boycotting these things. Yet an actual pre-concerted plan was put in motion throughout certain parts of the country to secure united action in boycotting eggs, butter, meat, and other foods in their turn. There is no far-reaching effect in a boycott, and it is open to question whether this action influenced prices in any way. The natural economic laws relating to supply and de-

mand would produce the same result as a spectacular boycott advertising a campaign which many cannot believe was designed for the ultimate benefit of the consumer.

It is to be remembered that all eggs put in storage in April must be on the market in December, for no cold storage eggs can be sold after the time limit of eight months has been reached. A few years ago when eggs were boycotted in Philadelphia it was believed to have been done in behalf of the cold storage men, who were caught at the expiration of the time limit with a large supply of eggs on their hands. The advertising campaign of a city-wide boycott and a dropping of price unloaded these eggs as the purely normal demand could not have done. It may be possible that the producers themselves have been behind the boycott. Under any circumstance the condition demands study rather than advertising. The causes of inflated prices should be analyzed.

To the situation of abnormal demand caused by the war, and an actual decrease in the production of certain staple food stuffs, there has been added a condition of railroad transportation which of necessity affects cost. And in place of a feverish agitation, or a publicity campaign that affords excuse for a wholly unnecessary rise in the prices of many things, there should be an intelligent survey of the facts, in the hope of discovering a possible removal of undue causes, rather than an alleviation of symptoms which will break out again and again.

There has been a widespread demand that someone do something, as well as that the government investigate. The Federal Trade Commission has been mentioned as the proper body to carry on such a movement, while meantime various states have been trying to round up suspected offenders in cornering the market for undue profits. And, as usual—because of its large membership and well-known influence, among the first organizations approached is the General Federation of Women's Clubs.

Before definite action is taken by any organization whose membership and methods are such as to influence and modify public opinion, the situation should be clearly defined, its factors recognized and its causes discovered. To apply a cure to symptoms is neither far-reaching nor intelligent. To continue agitation is but to add to high prices by a well sustained advertising method. And employing expensive commissions to investigate has as yet not been shown to be successful in regulating prices.

As a matter of fact there is no one single cause that has produced the present high cost of living, unless we can ascribe it to the general and unprecedented prosperity of the country. Even that must be analyzed if we are to comprehend its reasons for being and the ultimate results. There are immediate and unavoidable reasons for the increased prices of many commodities. There are some less recognized avoidable ones. But we are not going to find a cure in prosecuting trusts or individuals, in boycotting any producer or his product, or in costly attempts to do away with the needed middleman. We can find it only in the very difficult and much slower process of education, for the fundamental underlying cause of the condition is the wasteful, unintelligent, or uneducated procedure in each individual home.

As a matter of fact we would have very little need to worry over the high cost of living if each of us based her own living upon her own needs and the needs of her family rather than upon their wants. For one of the great contributory factors in the present situation is the rapid increase of extravagant wants with the too sudden prosperity occurring when wages have been quickly raised, and every man can have a job if he will take it.

The questions to be asked and answered are three. First: Are the newspapers stating the actual facts relating to increased prices, or is it a well-planned publicity campaign having increased profits as its ultimate purpose? If this is answered in the affirmative, and it is acknowledged that the items of food, clothing, and shelter have so risen in price as to make living very difficult for those whose incomes have not increased, then the second question arises. What are the underlying causes of this increased cost and price?

At this particular time it is most needful that all consumers, men and women alike, should clearly define the difference between cost, price, and value. It is failure to do this that not alone adds to cost, but increases prices. If we today were all talking about the decreasing purchasing power of the dollar rather than the high cost of living, there would be a positive gain in clearing our mental vision toward the undesirable result of that which, in some degree at least, can be classed as gossip.

If, on the other hand, we could definitely ascertain that the high cost and increased prices have been vastly exaggerated, we might be induced to make more quickly those adjustments which would relieve the situation at least in part.

Concisely stated, the three questions are as follows: Have the prices of food stuffs risen unduly? What has caused this condition? What can be done about it? And the first must be answered by the consumer rather than any food official or commission, state or national.

It takes but a cursory survey of the winter quarterly of a large and well-known retail grocery house to establish without question that while there has been a spectacular advance in meat, eggs, butter, flour, sugar, and some few other things, there has been a well defined, if limited increase, in the prices of certain food articles, while others remain the same. Tea, chocolate, and cocoa are quoted at exactly the same prices given in 1915-1916. Coffee has varied so little as to warrant the statement that it costs no more. The products manufactured from flour, such as macaroni and crackers, and many farinaceous foods, rice, hominy, oatmeal, and others, have risen in peculiar ways. The finest head rice is quoted both years at nine cents a pound, while another kind has increased a cent a pound, yet the remaining brands are unchanged in price. Macaroni and spaghetti have increased from one to three cents a package, while some brands of hominy remain the same, and others have risen three cents on a three pound package. Some breakfast cereals have advanced a cent a package, some two, some three, four, and five.

The canned soups show strange vagaries in price, one firm increasing the price of certain kinds from \$3.35 to \$3.60 a dozen cans, while of others, in which chicken stock figures the price is reduced from \$3.75 to \$3.60 a dozen. Sundry other soups remain exactly the same, while different brands of tomato soup have increased from six to ten cents on the dozen.

The quotations for hams, bacon, and sausage are from three to six cents more a pound, depending upon the brand. Canned meats have increased from six to twenty cents a can; fish from ten cents a kit to four cents a tin, salmon being two cents more a tin for each size. Then this strange thing occurs. One good brand of American canned vegetables has not changed in price, while the next quoted has increased from three to five cents a can. Some firms quote but a limited variety of vegetables in place of the usual number, and all corn and beans show a considerable advance in price.

A close study of canned and preserved fruits reveals queer things. Take apple butter: one firm quotes forty cents a pound both years, the second thirty-two cents last year, forty this. Canned black-berries

and blue-berries are the same, while peaches rose twenty-five cents a dozen cans on nearly every brand. On the other hand, the fruits canned and preserved in glass by women who have established reputations in this work have not changed in price, and the same is true of two well-known firms whose goods retail grocers handle.

However, because one firm has increased the price on an output of preserved fruit and another does not, should not be taken as an indication of a desire for highway robbery by the first firm. There are certain established facts which must be recognized before any one is justified in making accusations, or in trying to force prices by methods that can only be adopted by the few.

Some of the facts are that there was actually a considerable decrease in the production of certain food materials this last year, while there was a very great demand upon our supply. This argument at once brings out the suggested remedy of an embargo on food stuffs without questioning as to whether the government, with due consideration to our neutrality, can any more prohibit food sales than those of munitions. No other one thing so needs to be said again and again, and yet again, as that we must look before we leap, not alone at the distance we are trying to cover, but why it is desired that we act at all.

The present agitation over the high cost of living, egg boycotts, and frenzied methods of immediate cure for a situation which has to do with all the intricacies of the industrial conditions, made acute and difficult by the war, is only adding to prices without remedying matters in the least. And it is affording the desired opportunity for many things.

But what is to be done about it? Here are a large number of families living on salaries which have not increased. Wages have, and with the full dinner pail has always come an increased price for that which fills it. But thousands of us, clerks, teachers, professors, stenographers, and others, are caught between the upper millstone of prosperity prices, and the nether one of a fixed income.

Given \$2500 and a family of five, in 1915, 31.2 per cent of the income sufficed for food. This left 68.8 per cent, or \$1720, for the other four divisions of the budget. Today the \$15 a week does not suffice, and \$18, or \$936 a year (37.44 per cent), is being used, leaving but \$1564 for the other needs. What is to be done?

There is but one thing to be done, and that is to learn how to choose, to buy for nutrition instead of for the palate, and to feed the family for efficiency in place of mere pleasure. It may not be easy, but it is

necessary and right. Adequate, nourishing food is still to be found for \$15 a week for a family of five, but it has to be intelligently, carefully purchased, and prepared and cooked in good, wholesome ways.

It is trite to say that women are the consumers, but it should be repeated until all realize what that statement means and implies. There are few American women today who do not hold and disburse the household funds, buying such food, clothing, and shelter as the income is able to provide. There are some who control the entire expenditures for the family, and many who have a share at least in planning what shall be done. And of all these thousands there are comparatively few who realize that consumption is a business based on business principles and procedure in exactly the same way that production is.

The buyer of any line of goods for a retail or wholesale house could not hold his position a week if he knew as little concerning the actual business of buying as the average housekeeper knows about the providing of household necessities. This is not the time for agitation. It is the time to seriously study the situation both in our individual and community procedure. It is the time to realize that the students of economics continually bring in the verdict of "waste" when the procedure of the American household is tried at the bar of justice. We cannot control the country's waste except by teaching and practising, all over this land, that thrift which is wise use in the home.

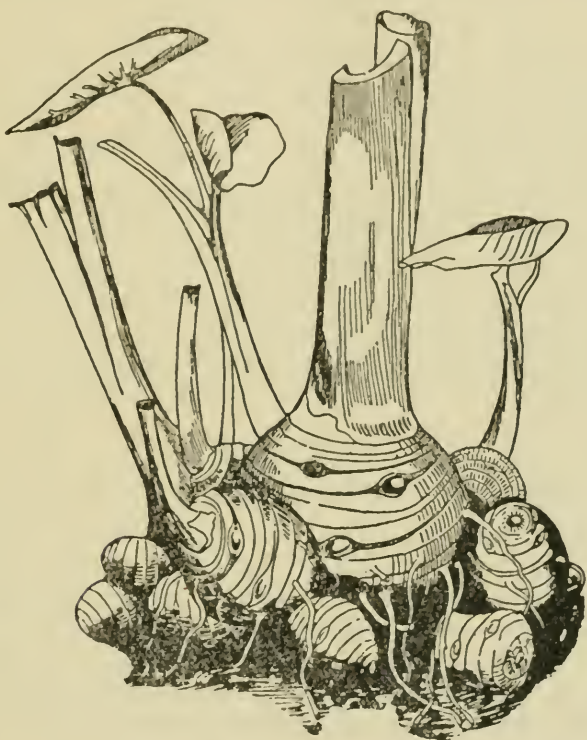
If the women's clubs all over the country would unite with, let us say, the Federal Departments of Agriculture and Labor, and the American Home Economics Association, in a definite study of the factors that control the transportation, distribution, sale and use of our food supplies, with the end in view of publishing an actual report of the exact conditions, an undoubted and very great service would be rendered our homes. But it should be a carefully planned and properly organized survey, to which all sides contribute testimony, and this means that the consumer herself would have to study her methods of buying and use and be willing to acknowledge her shortcomings, as well as to be ready to learn new ways. The "woman who spends" is not the only responsible person but she is one of the group, and producers, distributors, consumers, and officials should get together to learn the facts and discuss ways and means.

THE DASHEEN

Many departments of the United States Government are interested in developing new varieties of foods, or in promoting the introduction of foods into new places.

The Bureau of Plant Industry has lately reissued some directions for the use of a vegetable that seems well adapted to cultivation in the southern part of the United States.

The dasheen is used as a staple food by millions of people in tropical and subtropical countries. The plant furnishes long spherical corms,



A hill of dasheens. The large central CORM, with part of leaf stems still attached, is surrounded by the TUBERS, just as they grow.

and large tubers, both of which may be used. The flesh is somewhat gray or violet in color when cooked. It resembles the potato in many respects though it has a delicate flavor of its own.

The question has risen whether increased cultivation of the dasheen might bring it into direct competition with the potato, but this seems

improbable since it is grown only in the south and therefore can hardly actually compete in price with one of a similar nature that is grown successfully in practically all parts of the country.

It seems probable, though, that, as the cultivation of the dasheen is extended, and it comes to be generally known, so that the increased consumption will further stimulate production, the price will fall materially. While the prices which growers receive are not now exorbitant, the fact that the dasheen is shipped north in comparatively small quantities, and appears on the market as a novelty, has resulted in the retail price everywhere being kept at a comparatively high level, usually between 10 and 15 cents a pound. The dasheen contains considerably less water than the potato, and a correspondingly higher proportion of actual food, and this should always be borne in mind in comparing the costs of the two vegetables.

One of the principal points claimed for the dasheen is that it adds another delicious vegetable to that very small class of starchy ones to which it belongs. For certain purposes, it is even more useful than the potato, while for others, the potato will be preferred. While some persons may never care for it, there are others who become very fond of it who do not care for the white potato.

The following rules are given in the leaflet issued by the Bureau of Plant Industry.

BAKED DASHEENS

Dasheens, large or small, may be baked like potatoes in a quick oven. If not already thoroughly cleaned they should first be rubbed or scrubbed to remove the loose fiber from the skin. Small dasheens may be scraped before baking, as they are then more convenient for eating, and the soft crust which forms around them is particularly delicious. Rubbing these scraped dasheens with fat before baking will improve them, or they may be roasted with meat. Large corms should be parboiled for 10 to 20 minutes before baking, and may be cut in half either before or after the boiling. The total time required for cooking is a little less than for potatoes of the same size. Baked dasheens should be served immediately when done.

NOTE.—When uncooked dasheens are scraped they should be handled in water to which a level teaspoonful of sodium carbonate (washing soda or sal soda) to the quart has been added, as the juice of the outer layer of the raw dasheen contains an irritant that, when mixed with water, causes the hands of many persons to sting. This property is destroyed by cooking, the cooked dasheen being as bland as a potato and of a pleasant nutty flavor.

BOILED DASHEENS

Large dasheens (corms) are preferable for boiling, though small ones (tubers) may also be used. They should always be boiled in the skins and may be served thus or with the skins removed. Dasheens do not require quite so long boiling as potatoes of the same size.

In the case of small tubers they are especially good if, after peeling, they are placed in the oven just long enough to melt over them a dressing of butter. When so prepared they can usually be kept standing in a warm place for a short time without becoming soggy. Instead of placing them in the oven the tubers may be fried slightly, either whole or in halves.

RICED DASHEENS

Boil (or parboil and bake) the dasheens in their skins. Remove the skin immediately, rice the dasheen into a heated dish, and proceed in one of the following ways:

(1) Stir in the desired seasoning, as butter and salt, and serve in a warm, covered dish. The butter may be omitted if gravy is to be used.

Milk or cream may be beaten in if desired, as for mashed potato, but dasheens prepared in this way will be rather sticky and some will prefer to omit the milk or cream, or at least to use only a little. Mashing in the ordinary way is not recommended.

(2) Empty in layers into a warmed serving dish, seasoning each layer and omitting the stirring.

(3) Season the riced dasheen as desired and put into a baking dish, with a liberal quantity of butter on top. Bake for 8 or 10 minutes and serve.

SCALLOPED DASHEENS

Pare and slice raw dasheens, putting the slices in layers into a buttered baking dish, and season each layer with butter, salt, etc. Lattice-work slices, made with a fluted slicer, are a little more attractive in appearance than the plain ones, and they do not mat together. Nearly cover with rich milk and bake. Only about two-thirds as much time is required in cooking as for scalloping potatoes. If the corm is used it is well to discard about three-quarters of an inch of the upper or bud end, as it may be tough after cooking. Onion seasoning brings out the dasheen flavor.

DASHEEN CRISPS

Dasheen crisps are especially recommended. They are made by cutting the raw dasheens into lattice-work slices, as for scalloped dasheens, or into fluted slices, and frying slowly to a light brown in deep fat.

DASHEEN SALAD

Boil medium sized or small dasheens in the skin and proceed as for potato salad. It is very important to prepare the dasheens while still warm and to add the dressing at once.

Dasheens may also be stuffed, following the rule for potatoes, but using more butter; fried, either raw or after boiling, using a quick process that they may not become dry and hard; creamed, or made into soup. They may be made into cakes or croquettes, into griddle cakes, or used as a filling for fowl and other meats. Cheese is an acceptable addition to them and onion seasoning brings out the flavor.

HAS THE ICE BLANKET ANY USE?

The principle stated at the end of the article on The Household Refrigerator, in the December number of the JOURNAL, that "Ice should not be wrapped in papers or blankets to keep it from melting; since only by its melting can the food chamber be kept cool" is an undeniable fact in physics. Yet the ice blanket may be properly used, not to keep the ice from melting, but to regulate the source of the heat that it absorbs in melting so that it may not obtain it from the outside air, such as enters through a frequently opened door.

To be effective in cooling the refrigerator, the ice must absorb the heat of the air within the chest. This is cooled by the ice, contracts and becomes heavier, sinks down through the opening in the bottom of the ice chamber, and by contact with the food and the bottom and sides of the ice chest becomes warm and lighter, and is forced up through the openings at the side of the chamber by the cooler heavier air, and again enters the ice chamber. An arrangement then of the ice blanket that will allow this air to come in contact with the ice, but that covers the ice as far as possible from outside air should save the ice and not affect the temperature of the ice chest.

It is a similar principle to that on which the ice cream freezer is constructed so that the heat that is absorbed by the freezing mixture comes from the cream to be frozen rather than from the out door air.

STUDENTS' CONTRIBUTIONS

A COMPARISON OF COMMERCIALLY PREPARED AND HOME PREPARED LUNCHEONS

The object in carrying out this experiment was to try to determine which was really better, from various standpoints, to depend upon commercial foods or to prepare them in the home. The points considered were cost, so far as time, fuel, and actual expenditure were concerned; nutritive value, in terms of calories; flavors, and attractiveness. The work was done by the Advanced Domestic Science Class of the Alabama Girls' Technical Institute, as one problem of the year's work. Each member of the class wrote on one phase of the experiment, and the instructor put the reports together, as a whole, for publication.

Before making the menu it was necessary that visits be made to local groceries, to ascertain what could be bought, and to compare lists thus obtained with others made from an inventory of pantry and garden.

Five menus were then selected, each furnishing the required number of calories. In as much as the guests to be invited were (with one exception) women, doing moderately active muscular work, we determined upon 620 calories, according to Atwater's table. From the five menus, the class chose the following:

COMMERCIAL LUNCHEON

Boiled Ham	Prepared Mustard
Canned Butter Beans	
	Canned Sweet Potatoes (candied)
Baker's Bread	Creamery Butter
Canned California Peaches	Vanilla Wafers

HOME PREPARED LUNCHEON

Boiled Ham	Mustard Dressing
Butter Beans	Candied Sweet Potatoes
Homemade Bread	Country Butter
Home Canned Peaches	Sugar Cookies

The market price of the ham was 25 cents per pound, but shrinkage, loss in cooking and weight of wrapper increased the price to 42 cents. The peaches are recorded as requiring 4 minutes for cooking. This is the result of a previous experiment in canning a bushel, and cooking fourteen quarts at one time.

The nutritive value of the two meals was approximately the same, and the seasonings used were identical. The cookies probably were higher in food value than the wafers, but not so many were eaten.

The succeeding tables show the method of comparison:

Commercial

FOOD	QUANTITY	COST	TIME OF PREPARATION	TIME OF COOKING
			<i>minutes</i>	<i>minutes</i>
Ham.....	2 lbs.	\$0.80	2	
Mustard.....	$\frac{3}{4}$ bottle	.07	3	
Bread.....	2 loaves	.10	5	
Butter (balls).....	1 lb.	.40	20	
Potatoes.....	2 cans	.20	2	30
Beans.....	3 cans	.30	2	20
Peaches.....	2 cans	.60	6	
Wafers.....	2 boxes	.20	1	
Total.....		\$2.67	41	50

Cost of materials.....	\$2.67
Labor, 41 minutes, at 15 cents per hour.....	.10
Gas, 50 minutes, at $\frac{1}{2}$ cent per hour.....	.004+
Total cost.....	\$2.77+
Served 18 persons; cost per person.....	0.15+
Average appearance of all dishes.....	87.5 per cent.
Average flavor of all dishes.....	86 per cent.

Home prepared

FOOD	QUANTITY	COST	TIME OF PREPARATION	TIME OF COOKING
			<i>minutes</i>	<i>minutes</i>
Ham.....	2 lbs.	\$0.84	25	10*
Mustard.....	$\frac{3}{4}$ cup	.04	10	
Butter (balls).....	1 lb.	.30	20	
Bread.....	2 loaves	.10	45	40
Potatoes.....	9 (large)	.08	12	30
Beans.....	3 pts.	.20	45	35
Peaches.....	1 qt.	.10	30	4
Cookies.....	18	.09	45	45
Total.....		\$1.75	232	164

*Afterward fireless 2 hours.

Cost of Materials.....	\$1.75
Labor 3.8+ hours at 15 cents per hour.....	0 57
Gas 2.7+ hours at $\frac{1}{2}$ cent per hour.....	0 013
Total cost.....	\$2.33+
Served 18 persons; cost per person.....	\$0.129
Average appearance of all dishes.....	90 per cent.
Average flavor of all dishes.....	88.7 per cent.

From the experiment we conclude that from the standpoint of cost, flavor, and appearance, the homemade lunch is preferable, but from the time for preparation, and the gas consumed, the commercial is preferable.

EDITORIAL

The Housewife and the Eight-Hour Day. One of the January magazines has an article on The Housewife and the Eight-Hour Day that contains the following remarkable statement.

At the very outset I should take a mother's attention to her children out of the list of activities which are commonly designated by the term labor. The care of the child is a high privilege which should not be denied any mother. The labor of the household is therefore restricted chiefly to keeping the house clean, preparing its food, and washing its dishes.

In other words, having eliminated, or put in leisure time, the chief and most important occupation of many women in the home, the author shows conclusively that eight hours a day is enough time to spend on household labor. He goes on to say that the mental attitude of the worker transforms the housewife's task into an "opportunity," and that in the "environment of a well equipped kitchen a woman can go with joy to her artistic duties."

Why then not include the hours spent in housework as leisure time and consider them a "high privilege?" Why again leave out the planning of meals, the purchase of supplies, the mending and care of clothing, to say nothing of the making or purchasing of it, the washing and ironing, the answering of telephone and doorbell, no light task in many a household. We would suggest the study of the Syllabus of Home Economics.

The following schedule is offered. "Two hours for breakfast, an hour for lunch, two hours for dinner, and three hours for work around the house are quite sufficient in this systematic way to do all that is necessary for a family of reasonable size. The woman thus furnished has eight hours of leisure (for children, books, clubs, music, entertainment, recreation, exercise) and then eight hours for sleep."

If enough is eliminated even fewer hours might easily suffice. One young married woman, who has determined that housework shall not occupy all her time, finds that between four and five hours daily are

necessary for her family of two, in a seven room house. She is quick and knows how to omit non-essentials. Her laundry is sent out and a woman comes for cleaning one day a week. Breakfast is prepared in many households, my own among the number, for a family of four, in fifteen minutes, with a short half hour for clearing the table and washing the dishes. But this by no means proves that it could be done in this time under other conditions, as in case of a hearty breakfast for farm laborers or where there are little children who must have some special provision made.

It is a venturesome person who can make a general schedule for housework, and an even more venturesome one who can try to persuade the mother that there is not a great deal of downright hard work in the care of children, however great may be the joy and delight in their training and companionship.

Business Training for Women. In former days it was the occasional woman who had to do with business outside the management of her own household. Even within the home her administration frequently was carried on, more or less successfully, without any attention to business principles. Now there are multitudes in the business world, yet it remains true that a large proportion of women have not yet the preparation for any business responsibility, and that the lack of this experience often results in tragedy.

That this need is felt is shown by the fact that various organizations of women are considering the remedy. The General Federation of Women's Clubs is planning the formation of a department dealing with Business, coördinate with Health, Civics, Home Economics, and other departments. One branch of the Association of Collegiate Alumnae has been discussing the question "What can be done to better prepare high school and university girls for financial responsibility." One State University is preparing to offer in connection with its department of Commerce a two hour general course to meet this need.

The question is asked of the JOURNAL whether any other university has developed a course of this kind, and, if so, what is the content of the work. Information will be welcomed.

The JOURNAL has passed its 4000 mark in subscriptions—a gain of over 600 for the past year.

THE QUESTION BOX

Question: What are the latest results of investigations of the effect of alum baking powders on the human system? What are the results in baking powders where an acid other than tartaric acid is used?

Answer: No recent investigations pertaining to the effect of the various baking powders on the human system have been reported. Bulletin No. 13, 1889, of United States Department of Agriculture, Division of Chemistry, gives the composition of the various types of baking powder on the market. Since then these have not materially changed, the present kinds being:

First, Tartrate powders in which the acid constituent is tartaric acid in some form; second, phosphate powders in which the acid constituent is phosphoric acid; third, alum powders in which the acid constituent is furnished by the sulphuric acid contained in some form of alum salt.

All powders come under some one of these headings, although there are many powders which are mixtures of at least two different classes. The conclusions of the board of consulting scientific experts appointed by the United States government to investigate the influence of alum compounds on nutrition and health are given in Bulletin No. 103, United States Department of Agriculture entitled "Alum in Food." The following is quoted:

Aluminium compounds when used in the form of baking powders in foods have not been found to affect injuriously the nutritive value of such foods.

Aluminium compounds when added to foods in the form of baking powders, in small quantities, have not been found to contribute any poisonous or other deleterious effect which may render the said food injurious to health. The same holds true for the amount of aluminium which may be included in the ordinary consumption of aluminium baking powders furnishing up to 150 mg. (2.31 grains), of aluminium daily.

Aluminium compounds when added to foods, in the form of baking powders, in large quantities, up to 200 mg. (3.09 grains) or more per day, may provoke mild catharsis.

Very large quantities of aluminium taken with foods in the form of baking powders usually provoke catharsis. This action of aluminium baking powders is due to the sodium sulphate which results from the reaction.

The aluminium itself has not been known to assert any deleterious action injurious to health, beyond the production of occasional colic when very large amounts have been ingested.

When aluminium compounds are mixed or packed with a food, the quality or strength of said food has not been found to be thereby reduced, lowered, or injuriously affected.

Recently, however, the question of alum powders has been reopened by Gies, of Columbia (*Biochem. Bul.*, V, 1916, pp. 20-21). Under his general direction several "independent collaborators" have published papers on methods of determining aluminium and promised others on the effects of aluminium in food. Gies' paper of five years ago differed in its results from those of the Referee Board, concluding that aluminium could be absorbed from aluminized foods.

Since the various inorganic salts of phosphoric acid have been used extensively in many nutrition investigations with no untoward results, we may conclude that baking powders containing these are not injurious to the human organism. The tartrates, however, when used in large quantities, have been found to produce untoward effects in rabbits and dogs. We have no evidence that the small amount of tartrates present in various baking powders are injurious. (Underhill, Wells and Goldsmith, *Journal of Experimental Medicine*, vol. 8, pp. 317, 322, 347, 1913).

Question: What is meant by the term vitaminies?

What is meant by growth determinants?

Answer: Formerly it was believed that a diet consisting of adequate amounts of suitable protein, carbohydrates, fat, inorganic constituents, and water would fulfill all the dietetic needs of a living organism. Recent investigations have shown, however, that animals fed suitable amounts of these food stuffs, in chemically pure form, fail to grow and finally die. When a fat soluble complex, associated with certain fats—notably, egg, butter, and beef suet—and a water soluble substance, found in fruits and vegetables especially, were added to the above diet, normal growth was resumed. These two substances, the chemical nature of which has not yet been determined, are called by some investigators "vitamines;" by others, "food accessories," still others designate them as "growth determinants." McCollum of the Wisconsin Experiment Station has introduced the terms "Fat Soluble A" and "Water Soluble B," believing that when the chemical nature of these is known, suitable names can be substituted. Certain deficiency diseases, particularly beri-beri, scurvy, and perhaps pellagra are caused by too little of either one or the other of these essential substances.

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BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Clothing and Health. By HELEN KINNE and ANNA M. COOLEY. New York: The Macmillan Company, 1916, pp. 302. \$0.65. By mail of the Journal, \$0.71.

The book is written for the purpose of giving girls of elementary school age a knowledge of sewing and garment making, together with information which will train them to plan well and to buy wisely the clothes they wear, and the fabrics in the home.

It is made up of six chapters, each devoted to a particular phase of sewing or clothes. The subjects treated include the simplest forms of sewing, garment and gift making, caring for and repairing of clothes and of household linens, and discussions of problems confronting the shopper in selecting and buying fabrics and ready-made clothing.

Each chapter is subdivided into lessons, each of which emphasizes a particular point of the work in hand.

The form of the book is simple and direct. It is readable and easy to understand. The information given is always coupled with experiences already known to the student, and is based upon the real and practical in every day life.

There are many novel features which make this little book a valuable aid to young teachers. It suggests originality in handling sewing classes as against the more formal school-room methods frequently used. The scope of the subject matter given shows that the authors consider it necessary to teach more than merely how to sew if girls are to be able to dress well. They must have a more all-round training. The careful selection of materials as to purpose and suitability must have attention. Various points as to design, and the hygienic

necessities also call for consideration. Clothing properly cared for will be more attractive and last longer than that carelessly looked after. The chapter devoted to gift making introduces the social side of the subject in its thought for others. Oftentimes this proves to be one of the greatest inspirations to a child learning to sew. The last chapter presents some of the labor problems in a way which cannot fail to interest the little girls, destined to be the mothers of tomorrow. It is through the interest of the shoppers that the conditions of working women may be improved.

Unless the whole book were quoted its good points could not all be told, for every page brings its helpful suggestion. If there are points where some changes would suggest themselves, they are of such minor importance that they are lost in the feeling of genuine appreciation of this practical, helpful addition to our libraries—"Clothing and Health."

MARTHA H. FRENCH.

A Laboratory Manual of Foods and Cookery. By EMMA B. MATTESON and ETHEL M. NEWLANDS. New York: The Macmillan Company, 1916, pp. 325. \$1.50. By mail of the Journal, \$1.62.

The authors' purpose in this book is to approach the study of foods and cookery through experimental work in chemistry, bacteriology, and biology. It is expected that "the performance of the experiments and the answering of the questions arising from them, is to give a basis for discussion of procedure used in cookery, and should give such a grasp of the principles involved as will enable the student to work without recipes." Such a statement makes the home economics teacher anticipate a type of

book useful to those who feel that the most economical as well as the most efficient method of teaching foods and cookery is to make clear the underlying principles.

The subject matter of the book is organized in part under the food principles and in part under types of dishes as, for instance, "Desserts" and "Sugar and Candy." Each subject such as cereals is preceded by experiments relating to the topic and these experiments are followed by questions pertaining to the subject. Following the general topic is a group of recipes involving the use of food materials studied. About one-half of the book is devoted to these recipes. The book covers the general work on cookery but makes no attempt to introduce the problem of meals.

A careful review of the book indicates that the material included is accurate. The usefulness of the book will depend, however, largely upon the grade of students for which it is used. The conclusion of the reader is that the book is planned, not for high school students, but for those of more mature years. Such statements in the book as the one which follows serve to place it out of the realm of high school books. "Fruit is also valuable for its antiscorbutic property and often seems to act as a mild diuretic." The book seems to be planned for students with some previous general knowledge of the subject. The experiments are very suggestive of some of the work that may be done to clarify the questions of proportions and processes but seem at times more complicated than is necessary to bring out the essential points. As a result the principles underlying the various problems do not stand out clearly.

If the book were closely followed and the recipes used as indicated, considerable time would be wasted in the preparation of large numbers of dishes where the principles have not yet been discussed. For instance, a series of custards follows the work on milk though there has been no work of any sort on eggs. Many of the questions following the experiments are excellent. Some, however, do not take cognizance of the preparation of the students. For example, under cereals is found the following question on

milk, no work on milk having been given up to this point. "What possible objection could be raised to the long cooking of milk when used as a liquid with cereals?"

The book shows careful work without the inaccurate and extreme statements so frequently found in food and cookery texts. It is to be commended to those teaching work beyond the high school as a very suggestive laboratory manual to use where the experimental method is desired. Whether the book accomplishes the aim of the authors will depend upon the skill of the teacher in securing a close application of the experimental work to the cookery processes.

PAMPHLETS RECEIVED

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Bridgman's Popular Food Charts. By Eda Lord Murphy. Size 2 feet 4 inches x 3 feet 6 inches. No. 1. The Body—A Building; No. 2. The Regulating Foods; No. 3. Proteins or Body Builders; No. 4. Carbohydrates and Fats. E. C. Bridgman, Pub., 86 Warren St., New York, N. Y. \$2.00 per set.

Course of Study for Household Science Clubs. Illinois Farmers' Institute, Dept. of Household Science, Circular No. 3. By Officers of the Dept., Springfield, Ill., July 1916, pp. 28.

Exhaust and Vacuum in Canning. By A. W. Bitting. Washington, D. C.: Research Laboratory National Canners Association, Bulletin No. 8, Sept. 1916, pp. 54.

Guide to Menu Making. Arranged by Anna Merritt East. Curtis Publishing Company, Philadelphia.

London County Council. Evening Institutes. Suggestions to Responsible Teachers of the Domestic Crafts and Home Organization, and Suggestions for Syllabuses of Instruction in the Following Subjects:—Laundry Work, Cookery, Needle Crafts, Housework and Home Organization, Scientific Method in Relation to the Domestic Crafts, Home Planning, Domestic Handicraft, Simple Embroidery and Design, and Domestic Calculations. 1916-17. R. Blair, Education Officer.

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PHYSIOLOGY AND NUTRITION

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NEWS FROM THE FIELD

HOME ECONOMICS MEETING TO BE HELD IN CONNECTION WITH THE
N. E. A., IN KANSAS CITY, MARCH 2, 1917

The President, Dean Catherine MacKay, Iowa State College, presiding

MORNING SESSION

Greetings from the American Home Economics Association

Dean Catharine MacKay, Iowa State College, President of the American Home Economics Association

Some Problems in Home Economics in the Public Schools

Mrs. Henrietta Calvin, Specialist in Home Economics, Bureau of Education, Washington

J. H. Francis, Superintendent of Schools, Columbus, Ohio

Project Work in Teaching Home Economics, its Value and its Limitations

Dean W. W. Charters, University of Missouri

The School Lunch as a Project in Teaching Foods and Cookery in the Elementary and High Schools

Miss Essie M. Heyle, Supervisor of Home Economics, Public Schools, Kansas City, Missouri

Mrs. Mary Baker, Vocational High School, Memphis, Tennessee

Miss Jenny Snow, Department of Household Arts, Chicago Normal College, Chicago

AFTERNOON SESSION

Fundamental Inter-relation of Courses in Home Economics and other High School Subjects

Miss Josephine T. Berry, Chief of Division of Home Economics, University of Minnesota

Teaching the High School Students their Responsibilities as Consumers

Miss Hildegard Kneeland, Department of Home Economics, University of Missouri

A Consideration of the Subject Matter of Textiles as a Part in the Teaching of Clothing

Mrs. Kate Kinyon, Supervisor of Household Arts, Public Schools, Lincoln, Nebraska

Principles of Design in Relation to the Teaching of Clothing and House Furnishing

Miss Araminta Holman, Supervisor of Home Art, Kansas State Agricultural College

Miss Ethelwyn Miller, School of Education, University of Chicago

The National Education Association, Department of Superintendence, February 26 to March 3 presents a program full of interest to the teacher of Home Economics who sees the relation of her own work to that of other departments of education. Those who cannot attend the whole meeting, are referred to the above program of the American Home Economics Association on March 2. The headquarters of the Association will be at the Kupper Hotel. Directions for making reservations are given in the November, 1916, JOURNAL, page 610.

The Kansas City Home Economics Association invites the Home Economics visitors to the National Education Association to take a drive over the boulevards and to a tea on Thursday afternoon, March 1. The machines will leave the Kupper hotel at 2.30.

Thursday morning a visit to the schools will be arranged. In order to save time, an effort will be made to provide motor busses, the cost for each person depending upon the total number who go.

Friday noon, a fifty cent luncheon will be served at the Y. W. C. A. where the Home Economics meetings are to be held. Saturday morning a trip is planned through Loose-Wiles cracker and candy factory, and through Armour's where a special display will be arranged.

Acceptance for the boulevard drive and reservation for the Thursday morning visit to the schools and for the Friday luncheon should be sent, not later than one week before the convention to Miss Essie Margaret Heyle, Supervisor of Home Economics, Board of Education, Kansas City, Mo.

THE CENTRAL ASSOCIATION OF SCIENCE AND MATHEMATICS TEACHERS

HOME ECONOMICS SECTION

The Home Economics Section of the Central Association met in Harper Memorial Library of the University of Chicago Friday December 1 and 2.

After the appointment of a nominating committee Dr. C. F. Langworthy, Chief of the Office of Home Economics, United States Department of Agriculture, Washington, D. C., spoke on Teaching Practical Dietetics. The point chiefly emphasized was the use of simple and objective methods in teaching dietetics to the average student or housewife, such as explanatory pictures of actual meals, lists of foods arranged in the five groups, or charts with printed explanations. Dr. Langworthy illustrated his talk with lantern slides showing typical examples. Miss Amy Daniels, in charge of dietetics at the University of Wisconsin, discussed Dr. Langworthy's paper. She agreed with Dr. Langworthy and added that she felt that the housewife and the student need to understand the meaning of technical terms, but do less of the mathematics of dietetics. To the inquiry, "Would you use such terms as 'growth determinants' in the secondary school?" Miss Daniels replied, "yes, and give the reasons why."

Miss Carrie A. Lyford, Specialist in Home Economics, Bureau of Education, Washington, D. C., presented a paper on Fitting Home Economics Work to Community Needs. The last paper presented was The Content of Domestic Art Courses, by Miss Anna McMillan, in charge of Domestic Art, Lewis Institute, Chicago. Since the Saturday morning meetings were to continue along these lines, these papers were not discussed.

On Saturday morning the meeting was called to order by the chairman, Miss Edna White. A brief business meeting followed.

The report of the joint committee on a course in high school chemistry for students in Home Economics was read by Miss Elizabeth Miller of the University of Chicago. The report was accepted and ordered printed in the proceedings and in THE JOURNAL OF HOME ECONOMICS.

The chair was requested to appoint a committee to approach the Physics section with a view to arranging a similar combination course in Physics and Home Economics.

The report of the Nominating Committee was as follows: For Chairman, Mildred Weigley, Minneapolis, Minn.; Vice-chairman, Faith Lanman, Columbus, Ohio; Secretary, Beatrice Hunter, Chicago, Ill.

(Signed) EMMA CONEY,
JENNY SNOW,
BERNICE ALLEN.

The following votes of thanks were passed: to the government for sending Dr. Langworthy and Miss Lyford to the meeting; to the University of Chicago and to the reception committee for their courtesy to this section.

The meeting then divided into two sections for round table discussions.

SECTION I

Standardization of food teaching in grades and high school

Emma Conley, Extension Department, University of Wisconsin, presiding.

First topic. Home Economics in the Junior High School.

Discussion opened by Carrie E. King, public schools, Chicago, followed by Faith Lanman, Supervisor of Domestic Science, Columbus, Ohio. The points brought out in the discussion were:

1. Great over-lapping of courses in Domestic Science in grades and high school.
2. An apparent tendency to leave out essentials in the course.
3. Necessity of becoming familiar with utensils and how to care for them.
4. Necessity of teaching ideals as to personal cleanliness.
5. Emphasizing technique.
6. Problem of making school kitchens self supporting, as students are interested in food sales. This point brought out several objections.
 - a. It imposes extra work on the teacher.
 - b. To make food salable, there may be over-emphasis of technique and neglect of other educational factors.
 - c. There is danger of sacrificing the child to the product, since the teacher often steps in to save mistakes for the sake of the finished results.
 - d. Often only the children who do things well are allowed to cook. The point was upheld by others who felt that it was well for students to be judged by home standards if the food was made in family size, not institutional, recipes, as that is what they should learn to handle, and the work should keep the needs of the girl the main aim.
7. Teaching the spending of the family income.
8. Teaching economy of time, labor, and money.
9. Giving pupils idea of living simply.

Second topic. Science in Relation to Food Work.

Discussion opened by Miss Jenny Snow, Chicago Normal College, followed by Miss Helen Monsch, Iowa State College, Ames, Iowa.

Points brought out in discussion and illustrated by examples were:

1. "Learn to control material things which lie about you to make life gracious and more worth living."
2. Our purpose in teaching will control our work; we, as women, are inclined to hold back in the use of scientific apparatus, such as the use of accurate thermometers, to show how to control baking processes.
3. The high school girl is not primarily scientific, therefore the science work given to her must have a practical application; show a reason for what she is going to do.
4. Teaching the student not to be afraid of the things with which she is working.
5. Do not think of the work from the college standpoint, but from the standpoint of community needs.

Third Topic. Teaching of Standards, Florence Harrison, University of Illinois. Miss Harrison's outline follows:

Teaching of Standards

In teaching the food course, it seems of paramount importance that the teacher should have in mind as her aim, the establishment of definite habits, ideals, and attitudes of mind as well as the teaching of certain facts and principles.

Time will not permit mention of all the habits which may be formed but a few are as follows:

A. Personal habits.

1. Washing hands before handling food.
2. Wearing *clean* apron in kitchen.
3. Using individual towels.
4. Fastening hair well out of the way.
5. Keeping handkerchief away from work table and washing hands after its use.
6. Tasting from an extra spoon and not one that goes back into food.

B. Habits in manipulation.

1. Measuring accurately.
2. Thoroughly cleansing foods.
3. Arranging utensils conveniently and orderly while working.
4. Planning for needs and reducing steps to the minimum.
5. Using suitable utensil or tool and only for purpose intended and suited.
6. Stirring, etc., without wasting effort.

C. Habits in connection with care of the room.

1. Washing utensils thoroughly in an abundance of hot water.
2. Having a definite place for utensils and putting them in it.
3. Looking before leaving the room to see if everything is in order.

But the establishment of these habits in school is not sufficient to insure their being carried out as the girl performs her tasks under different surroundings and without supervision, unless ideals have been formed which impel one in favor of the habit formed. These impulses are acquired through the formation of the habit and partly because of discussions regarding the value and importance of the method of procedure followed. This idealizing of the method of work in order that specific habits may become general makes essential the daily discussion of the importance of and reasons for giving attention to the details of the processes to be carried out. The few minutes at the beginning of every laboratory period devoted to such discussion are not wasted, but rather are of inestimable value.

Some of the ideals which should be developed are:

1. Cleanliness.
2. Orderliness.
3. Accuracy and exactness in measurements and manipulation.
4. Economy in movements and use of utensils, materials, and time.
5. Good workmanship.
 - a. Making good products.
 - b. Ability to criticize own work.
 - c. Independence in work.
6. Living within one's means.
7. Cooperation in home and community.

A few of the attitudes of mind to be sought are:

1. Appreciation of attractiveness and spotlessness in table service.
2. Desire for simplicity in preparation and service of food.
3. Prejudice against filth, disorder, respect for knowledge and investigation.
4. Appreciation of hand work and the dignity of labor.
5. Appreciation of time, money, and energy.
6. Appreciation of value of system and planning.
7. Respect for and appreciation of the work of others.

The importance of the habits which may result but frequently do not result from the teaching of the food course, makes imperative the finding and following of a method which

will insure their formation. Such method, it is believed, means, first, that such training should begin in the elementary school and the early years of the high school; secondly, that the classes should be comparatively small, not more than twenty and preferably sixteen; thirdly, daily attention to details which necessitates lessons not overcrowded with subject matter. This would mean separate recitation periods, especially for high school; and lastly, standards of good workmanship, which are formed by seeing and handling that which is well done and by comparing and criticizing efforts made.

The definite prejudices, ideals and attitudes listed, which it is believed may result, the teacher must feel responsible for *causing* to result. These somewhat intangible controls are not quickly formed and indicate that the subject should extend over a considerable length of time, as throughout the high school course.

Dr. Langworthy suggested that many of these points could be printed on charts for memoranda in the home kitchen.

Fourth Topic. High School Home Economics and College Entrance Requirements, Miss Gertrude Van Hoesen, University of Chicago.

Miss Van Hoesen said that there are apparently few, if any, such requirements. The difficulty lies with over-lapping of work. The high school will not accept the elementary work, and the college does not accept much of the high school work which is taught by graduates of these colleges, hence the thing moves in a circle and probably the college is to blame for not guiding the future teacher to better advantage.

1. Our work is judged academically, and also economically. Are we wasting time, energy, materials, and money? Home Economics should be economics first, then science and art.

2. Just now we accept high school courses good, bad, and indifferent.

By vote the session was prolonged for further discussion.

The following points were taken up.

1. Have we increased the standard of living or of luxury?

2. Are we teaching the use of many luxurious foods and articles of clothing?

3. Do not teach elaborate process of preparation for which most persons have not time.

4. Be bacteriologically clean rather than spotlessly clean. Miss Snow said that to avoid a cross woman in the household was more important than to be spotlessly clean.

5. Urge less waste in housekeeping, but do not throw the entire burden on the housewife, but some on society at large. There is no social group in good home management.

It was moved and seconded that the chairman appoint a committee to collect recipes for foreign dishes to be taught in certain communities, so that the work in these districts can be "carried home," as the American recipes are very slowly accepted by parents of foreign birth, and that these recipes be printed in the JOURNAL. This motion was carried and the following committee appointed: Miss Jenny Snow, Chicago Normal College; Miss Mabel Wellman, Indiana University; Miss Anna Van Meter, Ohio State University.

Announcement was made that the Central Association will meet next year at Columbus Ohio, and an invitation was extended by the University to the Home Economics Section to hold their session in the new Home Economics Building.

The meeting adjourned.

SECTION II

Standardization of textile and clothing teaching in grades and high school

Ethel Sapp Tudor, in charge of Home Economics Department, Baldwin-Wallace College, Berea, Ohio, presiding.

The discussion of the following topics was general and quite informal:

1. Variation of courses for different communities. Leader, Anne Green, Extension Department, University of Illinois.
2. Courses of study. Leader, Agnes Hanna, School of Education, University of Chicago.
3. Relation to the curriculum as a whole. Leader, Ethel Alexander, High School, Fostoria, Ohio.
4. Sources of supplementary material. Leader, Lora Lewis, Supervisor, Terre Haute, Indiana.
5. Teaching of standards. Leader, Maude Gregory Adams, Supervisor of Practice Teaching, Ohio State University, Columbus.

A general consensus of opinion was that—

- (a) Because community needs vary so greatly, there can be standardization in teaching Domestic Art only along broad general lines;
- (b) We need to concentrate more upon a few definite things we hope to teach with any given group of pupils;
- (c) Through correlation with all other high school and grade studies, the teaching of Domestic Art may be made of more value to the pupils;
- (d) There are many standards of equal importance with technical skill, and these should be considered a necessary part of the subject to be taught.

GRACE GORDON HOOD,
Secretary.

The Annual Meeting of the National Society for the Promotion of Industrial Education is to be held February 21 to 24 in Indianapolis, following a survey, for the purposes of industrial education, of the state of Indiana.

This meeting is of great interest to workers in home economics, and those who attend will be amply repaid. No special session for women's work will be held, but on each general program that side of the work will have consideration. "The Two-Fold Problem of Training Girls" by Mrs. Eva White of Boston is of special interest. There will be a dinner meeting on February 23 and a luncheon meeting on the 24th where vocational training for girls and women will be discussed.

The advance program, giving full details, will be sent anyone on postal card request to the N. S. P. I. E., 140 West Forty-second Street, New York City.

The Smith-Hughes Vocational Education Bill passed the House of Representatives, Tuesday, January 9. The bill now goes to a Conference Committee to be amalgamated with the Senate Bill which passed last August, from which it differs in slight detail. As the bill unanimously passed in both Houses, its consideration in the Conference Committee will be largely a matter of routine and we may confidently expect that it

will be signed by the President early in February, to go into effect July 1, 1917. The amendments advocated by the organizations chiefly interested in the bill were practically all secured. The bill will undoubtedly come from the Conference Committee in far better and more complete form than it was earlier believed possible to secure.

CONVENTIONS IN FEBRUARY

The Fourteenth Annual Convention of the Religious Education Association is to be held in Boston, February 27 to March 1. One session is to be on The Family, and includes addresses by Rev. Abraham W. Ribbany on The Old and the New Foundations of the Family Altar; by Dr. Richard C. Cabot on Family Prayers; by Rabbi Harry Levi, of Temple Adeth Israel, on The Training of Parents, and by Dr. William McKeever, of Kansas State Agricultural College on The Responsibilities of Parents to their Children.

The Consumers' League of the State of New York will again hold its annual meeting in New York City, in conjunction with the quarterly conference of the National League and the annual meeting of the New York City League, February 15 and 16. General Goethals and Dr. Alice Hamilton have been invited to speak.

THIS IS LABEL MONTH. ASK FOR IT.
PERSIST.

THE

Journal of Home Economics

For those interested in Homemaking, Institution Management,
and Educational Work in Home Economics

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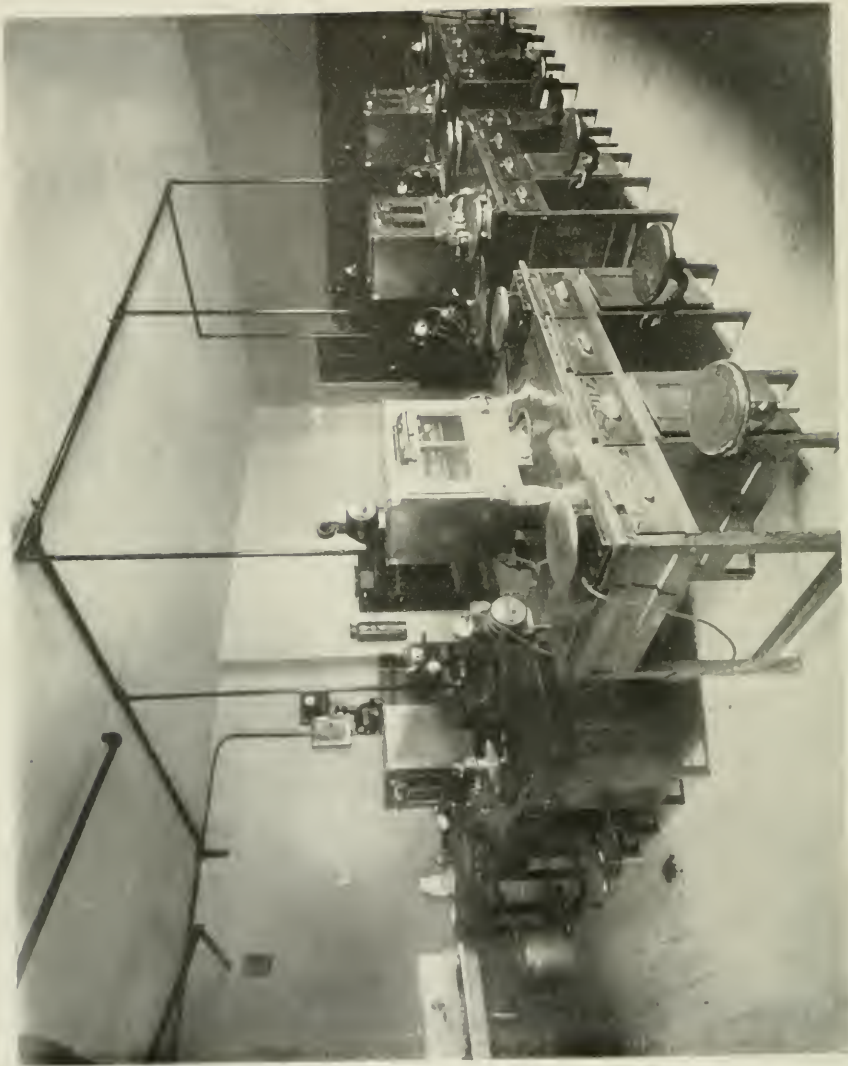
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COLLEGE RESIDENCE HALLS¹

EDMUND J. JAMES

President of the University of Illinois

The question of providing for the adequate housing of students attending the higher institutions of learning is one which has had a very different answer in different countries, and in the same country at different times, and in the same countries at the same times in different institutions. When the universities in the Old World began to develop, it was necessary to introduce a residence hall feature oftentimes because the localities in which the institutions were placed had no adequate provision for housing the student body. In fact, it is said of more than one university that the number of students was so much in excess of any possible provision for them that they lived in tents, they camped in the fields, in fact in some places they burrowed into the sides of the hills. The students of today who complain of the lack of this or that or the other would be wonderfully benefited, in my opinion, by a little of the wholesome, vigorous, trying life of the medieval universities where they would really have to sacrifice for the purpose of getting that training and education which would enable them to do their highest service to the community in the long run.

We see that as a result of school development at Oxford and Cambridge, and other typical universities of England, not only were housing privileges provided by the university, or rather by the colleges which made up the university, but students were obliged by university rule

¹ Part of an address delivered at the laying of the corner stone of the Woman's Residence Hall, University of Illinois, Urbana, Illinois, October 21, 1916.

to live in those houses. At Oxford and Cambridge for some time the universities refused to permit any students to enroll for university work who had not been already admitted to some college or residence hall for which a certain number of university graduates had assumed a certain kind of responsibility, and the university would not recognize these colleges as suitable media through which these students should enter the university until the colleges had provided residence halls in which the students should live and in which they should be under a certain college and university influence. It took practically an act of Parliament to pry open the universities so as to allow students to enter Oxford and Cambridge who for any reason could not get into the colleges, or for any reason preferred not to enter through the colleges; and the noncollegiate body of students—that is a body of students living at large in the community as we all do here at the University of Illinois—is a creation of the last fifty years at Oxford and Cambridge.

On the Continent, from other reasons, into which I need not go, the residence feature early dropped out as a characteristic of the great universities of Germany, and, to a smaller extent, of other countries. A few of these universities still maintain residence halls for a considerable portion of the student body, but, generally speaking, the German universities have given up all idea of trying to provide residence facilities for students.

Our own American universities, springing, as the larger number and more prominent institutions did, from English origins, began with the idea of providing buildings in which the students should live and in which they should be subject to the severe discipline of the university. That was a time when freshmen were regularly flogged for failing to attend the chapel, or failing to recite their lessons well. Discipline meant something in those days. Living in the college buildings had a real content which to a large extent we have lost in this western country.

When our western schools were opened, particularly when our state universities were established, it was necessary in many cases to put in halls for students, because these buildings were located at a distance from towns, or the towns were so small that they could not be expected to take adequate care of the number of students who were expected to attend these institutions.

As time progressed and the number of students began to increase rapidly, it became increasingly difficult to provide, either in the eastern or western institutions, a sufficient number of buildings to house the

students in college buildings, and so the number of non-college residences—if we may use that term—increased rapidly in all our great universities.

The experiences of our western institutions with residence halls in the early days were not such as to arouse the enthusiasm of the trustees or the faculties for their increase. The stories which the men who occupied these dormitories in the early days still tell with jovial countenances and with mirthful chuckles do not convey the idea of abodes of quietude. The rolling of wagon wheels down the stairways, the dropping of waste water pails full of waste upon the heads of approaching members of the faculty or fellow students, give some indication of the academic peace and quiet which prevailed in these early dormitories.

I do not know that a better illustration of this whole development can be found than here in the University of Illinois. When this institution was established in 1867 the surrounding country east and west, down to the Illinois Central Railroad on the west and to a similar distance to the east, was practically an open field. The villages of Urbana and Champaign were not large enough to take care of even the small number of students who repaired—I will not say flocked, as that implies a larger number—to this center of learning.

One of the reasons why the University was located here is to be found in the fact that there had already been erected, for the housing of a hoped-for academy or seminary, a building which contained a considerable number of rooms that might be rented to students. It was the first building and for a time the only building, including lecture rooms, laboratories, dining hall, rooms for students, and all the comforts of a Christian home, using that term in a large sense.

But the students were not very much enamored of their quarters, and they thought far more of having what they called a good time, which involved noise and racket and the destruction of property, than they did about helping to make the institution what it ought to be. The lack of funds on the part of the institution prevented the erection of other residence halls. The conditions in the old hall grew rapidly worse rather than better, and when a tornado finally took out one of the walls, compelling the destruction of the building, I think it is not too much to say that there was great rejoicing among the students and a great relief of head and heart among the faculty. The reputation of this residence hall persisted so powerfully through the following two decades that nobody even dared to discuss the question as to whether the University should have a series of residence halls or not. It was no

wonder that Doctor Gregory was luke-warm toward the proposition, that Doctor Peabody was persistently opposed to the scheme of providing residence halls, and that Doctor Draper was little inclined to let any movement start, so far as his influence could prevail, in favor of such a project.

But time and tide change all things. The vivid recollections of the old dormitory and its manifold abuses mellowed out into a gentle, pleasing recollection of the funny sides, the amusing sides, the ridiculous sides, of life in the old building. In the meantime the rapid increase of students had taxed the limits of the two cities to their utmost to take care of the ever-increasing crowd. A change began to come over the spirit of the University in the first place, and of the outside world in the second, in regard to this subject. Many persons became enthusiastic supporters of a project to provide a women's residence hall, or women's residence halls. Some people were so enthusiastic as to maintain that buildings should be erected to house all the women students of the University. And then the question naturally arose,—if for women, why not for men? And again the whole subject was in a position to be discussed on its merits without being prejudiced by the experience which the old-fashioned dormitory had given.

Here at Illinois, finally, the movement for the erection of a residence hall for women took definite shape, and the Legislature made an appropriation of money to the University which enabled the trustees to begin to plan for such a building. We are laying the corner stone of this building today, and we are hoping, if strikes and wars do not interfere, that we may begin to utilize the building, for the purpose for which it is to be erected, at the beginning of the next college year, in September, 1917.

Of course the building, although it will be of some considerable size, will house only a very small percentage—probably not more than seven or eight per cent—of the young women who will be attending the University of Illinois next autumn.

Many students do not care to live in residence halls. I remember that I, myself, when a student at Cambridge, after having tried the experience of living in the college dormitories, moved out because I preferred to have quiet and the isolation to a certain extent which the exclusive possession of a room in a private family gives. And I take it that there will be hundreds and thousands of young people here at the University of Illinois who will feel much the same way. In other words, if the University were in a position to erect buildings sufficient to house

the student body and should then insist upon all the students living in these buildings, I sincerely believe that we should have as much difficulty and trouble as we have had growing out of the fact that we have not had such buildings. There will always be a certain amount of formality, a certain amount of red tape, if you please, in the management of such buildings. They bring about a certain sort of institutional life which in many ways has its pleasant features, but which is very unpleasant to many types of mind and heart.

The following reasons may be given for establishing a system of residence halls at the University:

In the first place, the people outside may not keep up an adequate supply of rooms, and the prices for rooms may be excessive. I think this is true in nearly all university centers located in small towns like our own. The addition of university residence halls will tend to relieve this pressure and even if they do not take care of all the students, and perhaps of no great percentage of students, they will do something to relieve the situation, do something to keep the prices down to a fair figure.

A second reason is that they will do something to help standardize the conditions of life. A student needs for his work as peculiar and distinct a room and equipment as the grocery man needs for his work, as the iron man needs for his work, as the banker needs for his work, and it is very difficult to get people who rent rooms to students to understand that point of view and to provide the proper kinds of furniture and equipment. A university residence hall can, of course, do this and it can thus set an example, and if a private landlord wishes to know what to do in the way of providing facilities for students he can simply ask to see what the University affords and duplicate the cleanliness and light, and other essential things.

A third reason which is often assigned for the university residence hall is to be found in the fact that it offers a certain kind of social organization which is not so easily supplied by the students if they live at random throughout the houses of the community.

Now I am inclined to set considerable store by this. While we are getting our university education, our knowledge of Latin and chemistry, and other subjects, we ought to be getting a lot of other things that help to make us civilized people. We ought to be acquiring polished manners. We ought to be acquiring a certain ability to live easily and efficiently, so to speak, with our fellowmen. If we fail to get this we

are losing one of the valuable opportunities of university life. Of course it is not easy to organize the life of a great community like this as it should be organized. And residence halls properly constructed, properly organized, properly administered, can do something toward crystallizing and helping to form and shape what may be called the social life of the student body. And we shall hope for some results of this sort from this residence hall.

Another reason sometimes assigned is that students who have lived scattered about through the towns do not get in touch with the university spirit. Some people have come here from Chicago and St. Louis and Cincinnati, with very strong feelings on that subject, and insisted that they would not send their boys or girls to institutions which could not provide what they called opportunities for the development of college spirit. And so they have insisted upon a kind of institutional life which the college dormitory may develop.

I share this feeling very deeply up to a certain extent. A student who comes to the University and lives here four years and goes away without having increased his desire for profitable and wholesome human companionship will certainly have lost one of the greatest opportunities which college life may bring. If he shuts himself off and keeps away from the common life of the students in their common occupations and their common ideas and common hopes and aspirations, if he lives to himself, becomes a hermit, of course he is not going to profit by his college life as much as he would if he were to be a part of the institution of which he is a member.

I have never, however, attributed as much importance to the residence hall in the development of that spirit here under our conditions as I should, for instance, at the University of Chicago, or Harvard University, or Columbia, or Pennsylvania. We are here in this particular Latin quarter, in this University district, in this small segregated section between these two small cities, a community unto ourselves, and even if you have your room two blocks away from the campus and it is your own room and you do not share it with anybody else, you are still in immediate touch, in fact, you can not escape the touch of university life. It is not as if you were in the heart of a great city, with every kind of an attraction drawing you away, persuading you to come out of the community in which you had enrolled yourself, and to smother the life which this community intercourse has called forth in you.

In other words, the University here comprehends and includes within sight of the campus, so to speak, the area within which its student body resides. If you go to Michigan you will find its buildings scattered over a large area throughout the town. The same thing is true of Oxford and Cambridge, in a smaller degree. Especially is it true of Harvard; was formerly true of Pennsylvania. Under such conditions, of course the problem is quite different. But here we are parts of a whole, the spirit and the feeling of which every one of us realizes in his own heart and in his own mind. We have, moreover, scattered through these two towns, something like thirty or forty fraternity and sorority houses. These are units of light on their own account. But they are none the less a part of the University because they are located two or three blocks away from what we call the campus than if they were actually upon the campus. In other words, we have made by our growth and development the whole university region, so to speak, a University campus, and it is not so necessary for us, therefore, to attempt to concentrate our life upon the few square feet included in our campus as it would be in a smaller institution or in an institution located in a great city.

These are some of the considerations which have entered into the discussion of this question from the beginning and which will continue to enter into the discussions of the future.

This is distinctly an experiment upon the part of the University. I have no doubt that it will be a successful experiment, and that this policy thus inaugurated here today will be carried out more fully in the years to come, as things may be perfected, by the state, but I have no thought that the time will ever come when either the student body will all desire to live in residence halls owned and controlled by the University, or when the people of the state will be willing to provide residence halls for the immense number of students who from present indications will crowd into this great center of learning.

I congratulate the student body and the faculty and the trustees upon this addition to our facilities.

If this building is going to be nothing more than a place where a hundred young women can find comparatively cheap accommodations I must confess that I should be but little interested in it. I am looking forward to its being a real center of life and light and uplift to the entire student body of the University. I expect to see it have a marked

influence upon certain social standards, certain social practices and ideals among the young women of the University—an influence, I need hardly say, for the good. And if we succeed in founding it upon the right principles and securing an adequate and satisfactory administration for it, I am quite confident that this will be considered in all the future history of the institution as one of the red letter days of the University of Illinois.

A SCHOOL ELECTRIC EQUIPMENT

Our frontispiece shows the electric appliances now in use in the home economics laboratory of the University of New Mexico, Albuquerque, Miss Frances E. Lathrop, Director. The laboratory accommodates ten students and is equipped with an electric range, an electric plate with individual meter for each student, and an electric oven for each two students. The electric plates have proved convenient and satisfactory when speed is not considered. They heat somewhat slowly because the plate is solid metal instead of the corrugated style. When once heated the current may be reduced to medium or low with good results.

The ovens have proved very satisfactory for all kinds of baking. They work especially well for roasting meats and baking of quick breads and cakes. The regulation of the oven is very simple and satisfactory. The electric range has not proved so successful, partly because of the expense in running it, but since the laboratory has been so well supplied with individual plates and small ovens there has been little need for the range.

The system includes the individual meter system which makes it possible to regulate and control the expense. The equipment, taking every thing into consideration, especially the points of cleanliness and convenience, is very satisfactory. The average cost for each plate for a two hour period is ten cents (one kilowatt of electricity). The oven costs one-half more.

Another typical electrical equipment is in the Home Economics Department of the High School of McComb City, Miss.

A COMPARISON OF THE DIGESTIBILITY OF STARCH IN
TYPICAL BATTER AND DOUGH MIXTURES

AMY L. DANIELS AND LEOLA STRICKLER

Department of Home Economics, University of Wisconsin

It is generally believed that unless starch is cooked it is not a source of food for man, since the diastatic enzymes of the body have been shown by various investigators to be incapable of digesting the unruptured starch grains. When, however, starch paste is heated to the boiling temperature or thereabout, it produces a semi-transparent, colloidal solution, and in this form it is readily attacked by the digestive enzymes. The explanation for the difference in the digestibility of the raw and the cooked form lies apparently in the structure of the grain, for during the process of cooking no chemical change in the starch has been brought about, the gelatinization being a hydration process, the result of the adsorption of water and disintegration of the grain.

Many theories pertaining to the structure of the starch grain have been put forth from time to time, but the most generally accepted hypothesis is that the starch grain is surrounded by an outer protective coat, the nature of which has not been established, which must be injured or removed before digestion can take place, and so long as the grains are intact the coating serves as a protection against the influence of diastase.¹ According to many investigators plant diastases are no more efficient than human diastase in bringing about the initial changes in the integument of the starch grain. In the sprouting seed there is apparently some factor which removes the barrier presented by the coating.

Heretofore, the usual method of distinguishing raw starch from cooked starch has been by means of the microscope. Raw starch from various sources has peculiar shapes and markings. When the grains are cooked in water they lose their characteristic forms, become much larger, and, if the process is continued sufficiently long, the grains disintegrate. From this, one might reason that those grains in a given mixture which conform in shape and size to the raw starch grains are uncooked and consequently indigestible. However, a microscopic examination of samples of typical batter and dough mixtures showed many

¹ The literature has been reviewed by Reichert: *The Differentiation and Specificity of Starches in Relation to Genera, Species, etc.* Part I. 1913.

starch grains which were apparently unruptured; in fact, these were so numerous in the samples tested as to lead one to question whether the form of the starch grain may be used as a means of determining its digestibility, for it seemed hardly possible that so large a proportion of starch as was indicated could be uncooked and therefore unaffected by the digestive enzymes. It is conceivable that, in the process of cooking these various mixtures, the outer coating of the grains may be so affected that the diastatic enzymes may act on them, and that hydration and disintegration of the grain is not a necessary step in human digestion any more than it is in plant digestion.

Our preliminary examination showed that those mixtures, namely, pancakes, omelets, and popovers, in which relatively large amounts of liquid are used, contained a far larger proportion of swollen and disintegrated starch grains than those mixtures, such as pastry, baking powder biscuit, and bread, which contain relatively little water. In the first group there is apparently enough water to bring about a disintegration of many of the starch grains; in the latter the integuments of the grains may have been affected, but in the absence of an excess of water the form of the starch grain has not been altered. The starch grains in both groups, however, may be equally well digested. This can only be determined by digestion experiments.

In the investigation, samples of typical batter and dough mixtures, namely, pastry, bread, crackers, cakes, baking powder biscuits, pancakes, and omelets (made with eggs and flour), were dried to constant weights, and digestive experiments were made with taka-diastase.² Comparable digestion experiments were made with the various mixtures after each had been mixed with water and heated in a water bath at 100°C. for ten minutes. The difference between the amount of dextrose obtained before and after the water bath treatment was interpreted as the measure of the amount of uncooked starch in the given mixture.

In each determination 1 gram of the dried and pulverized material was placed in a beaker; 50 cc. of distilled water, 1 cc. of toluene, and 25 cc. of a 0.25 per cent solution taka-diastase were added. These were digested at 40°C. for twenty-four hours in some cases and in others for only seven hours, after which they were heated to boiling to stop all enzyme action, filtered, the filtrate made up to 250 cc. and the amount of dextrose determined in aliquot part by means of Defren's gravimetric

² Obtained from Parke, Davis & Co. Preliminary trials produced practically no hydrolysis of raw potato starch.

method. The same methods were employed in determining the amount of dextrose present in the mixtures which, previous to digestion, had been heated in the water bath. The amount of dextrose in the original samples was also determined. In all cases duplicate determinations were made. The results of the trials are summarized in the following tables:

Comparison of the amount of digestible starch in typical batter and dough mixtures

BATTER AND DOUGH MIXTURES	NUMBER OF SAMPLE	WEIGHT OF DRY SAMPLE	TIME OF DIGESTION	DEXTROSE IN CONTROL	DEXTROSE AFTER DIGESTING	DEXTROSE AFTER BOILING AND DIGESTING	UNCOOKED STARCH IN SAMPLE AS DEXTROSE
		gms.	hours	gms.	gms.	gms.	per cent
Pastry.....	1	1	24		0.0131	0.0170	22.9
	2	1	24	0.0004	0.0108	0.0182	40.7
	3	1	7	0.0005	0.0167	0.0173	3.4
Angel cake.....	1	1	24	0.0006	0.0166	0.0187	11.2
	2	1	7	0.0005	0.0220	0.0231	4.5
Crackers.....	1	1	24		0.0206	0.0253	18.5
	2	1	7	0.0002	0.0191	0.0198	3.5
Bread.....	1	1	24	0.0019	0.0235	0.0240	2.2
	2	1	7	0.0008	0.0226	0.0226	
	3	1	7	0.0019	0.0201	0.0208	3.5
Baking powder biscuits. ...	1	1	24		0.0195	0.0201	2.9
	2	1	7	0.0008	0.0141	0.0153	7.8
	3	1	24	0.0019	0.0235	0.0244	3.7
Pan cakes	1	1	24	0.0012	0.0185	0.0217	15.1
	2	1	7	0.0009	0.0108	0.0117	8.3
	3	1	7	0.0012	0.0195	0.0205	5.0
Butter cake.....	1	1	24		0.0234	0.0238	1.7
	2	1	7	0.0003	0.0187	0.0188	0.5
Omelet.....	1	1	24	0.0003	0.0162	0.0172	5.8
	2	1	7	0.0003	0.0106	0.0113	6.1

It should be noted that there is considerable variation in the results obtained in the three samples of pastry tested. In samples I and II the difference between the percentage of dextrose in the digestion mixtures before and after the water bath treatment was found to be 22.9

per cent and 40.7 per cent respectively. Sample III, on the other hand, contained a very small percentage of undigested starch, only 3.4 per cent. The explanation of the difference in the results undoubtedly lies in the fact that the samples were prepared and baked under different conditions. Samples I and II were baked until the crusts were flaky, but not brown; in fact, the skilled cook would have pronounced them insufficiently cooked. Sample III, which contained the smallest percentage of undigested starch was well baked, if one may judge by the golden brown color. The microscopic examination of the pastry showed that in all cases the starch grains had been apparently unaffected by the baking processes. There was no evidence of gelatinization or disintegration of the starch grains.

It is generally believed that pastry is difficult to digest, the reason sometimes given in explanation of this being that the fat surrounds the starch grains, thus preventing the starch-splitting enzymes from acting on the grains. This theory, however, is not well founded, for when pulverized samples of the pastry used in each of our trials were mixed with Sudan III, a fat soluble dye, and examined microscopically, the starch grains were found to be uncolored, while the stained fat was distributed in masses throughout the field. Moreover, the fact that the pastry of sample III, in which the usual amount of fat had been used, was well digested, demonstrates that the cause of digestion disturbances following the ingestion of pastry is attributable to some factor other than the inability of the digestive enzymes to act on the starch because the grains are surrounded by fat. We believe that the explanation lies, in part at least, in the fact that some of the pastry as usually served is insufficiently cooked. It is conceivable that pastry containing from 20 per cent to 40 per cent of raw starch will cause an untoward effect in individuals whose digestion is easily disturbed. Well baked pastry should cause no ill-effects, provided, of course, the person in question is not disturbed by a slight excess of fat.

A microscopic examination of angel cake, pancakes, and omelets³ showed that most of the starch grains had been eroded in all cases. This is contrary to expectations since angel cake and omelet are cooked at comparatively low temperatures, while the pancakes are cooked for a short period of time at a higher temperature. In explanation of this,

³ The omelet was prepared by adding to the well beaten egg the flour and milk which had been previously well mixed. This was then poured into a hot buttered pan and cooked in the usual manner.

the work of Lippmann⁴ should be cited. This author found that starch grains from various sources swell and gelatinize at different temperatures. Barley, for instance, begins to swell at 37.5°C., while arrow-root does not begin to swell until 66.25°C. Wheat, the starch with which this investigation is especially concerned, swells at 50°C., begins to gelatinize at 65°C., and is completely gelatinized at 67.5°C. This together with the fact that these mixtures contain a comparatively large proportion of moisture is undoubtedly the explanation of the eroding of the starch grains in those samples, for example, angel cake and omelet, which were cooked at the lower temperatures. The two samples of angel cake tested were not equally well digested, one containing 11.6 per cent of uncooked starch, while the other contained only 4.3 per cent. This may be explained by the different conditions under which these were cooked. Here, more work needs to be done on cakes which are made under controlled conditions. There was very little difference in the digestibility of the two samples of omelet tested, one containing 5.6 per cent of uncooked starch, and the other 6.1 per cent. Even though the omelet was cooked for a short period of time, approximately 94 per cent of the starch was sufficiently changed to be digested. These results compare favorably with those obtained with butter cake. Neither sample tested contained over 1.7 per cent of uncooked starch, although the microscopic examination showed many apparently unruptured starch grains.

The amount of uncooked starch in the two samples of soda crackers tested, varied, one containing 18.5 per cent while the other sample contained only 3.5 per cent. The crackers were made by different firms, and presumably the proportions of ingredients and the methods of mixing and baking varied.

Apparently the starch in well baked bread is in such form as to be digested. With the exception of butter cake the percentage of uncooked starch was lower than in the other mixtures tested. In one of the samples, there was no difference in digestibility between that which was digested after being placed in a water bath, and the sample not so treated. In the other two samples, there was a very slight difference, 2 per cent and 3 per cent respectively.

Since, in many of the batter and dough mixtures tested, the amount of undigested starch was so small as to be almost within the limits of

⁴ Lippmann, *Jour. F. prakt. Chemie*, vol. lxxxiii, p. 51, 1861.

error of the method used, although the microscopic picture showed many starch grains which appeared to be unaffected by the cooking process, it is evident that the conception generally held that starch cannot be digested unless its contour is changed, must be abandoned. A microscopic examination of the starch grains in a given mixture gives, we believe, no indication of their degree of digestibility. Grains which had all the characteristics of raw starch were as well digested by taka-diastase as those which had lost all semblance of their original form.

Further work is being done on batter and dough mixtures prepared under controlled conditions.

REPORT OF THE COMMITTEE ON CORRELATION OF CHEMISTRY AND HOME ECONOMICS IN HIGH SCHOOLS

HOME ECONOMICS SECTION, CENTRAL ASSOCIATION OF SCIENCE AND
MATHEMATICS TEACHERS

This committee was asked to report on the correlation of courses in home economics and chemistry as taught in high schools. Two phases of the problem were presented for consideration:

1. What facts in chemistry are essential to the teaching of home economics in the various courses in cooking, dietaries, sanitation, and cleaning?
2. What application from home economics problems can be drawn upon for experimental work or illustrative material in the teaching of chemistry?

The first conclusion reached by the committee is that, in general, as high school curricula are now planned, very little, if any, correlation is possible. The home economics courses are in most places electives which may be taken during any year, and usually without satisfying any prerequisites. In the general chemistry courses as now taught, applications are drawn chiefly from the steel mills and similar industries. The so-called "Household Chemistry" courses which have been offered have been chiefly a series of tests on foods and textiles, teaching few of the fundamental principles of chemistry, and making little intellectual demand upon the minds of the students.

The excuse made for such courses is that, in general, girls who elect home economics, and who therefore take household chemistry, are the poorer students. It is the opinion of the committee that the explanation lies only partially in the quality of the students. There seems to be also on the part of teachers of general chemistry a lack of the necessary knowledge of organic and physiological chemistry; and also a lack of appreciation of the real value of such material in relating the chemistry course to the interests of the students. In addition a thorough understanding of the content of home economics courses is essential in a teacher who attempts household chemistry.

In the light of these facts the committee can only recommend that an effort be made to standardize home economics courses, to require that they be taken in sequence, and that certain requirements in physiology, physics, and chemistry be imposed. It seems advisable to put chemistry in the junior year. It will thus parallel or precede the last course in foods. The home economics teacher will then be enabled to draw upon the student's knowledge of chemistry.

The committee further recommends that the work in chemistry be planned to correlate as closely as possible in subject-matter and in time with the study of foods. To be specific: the usual course in cooking begins in the fall with fruits and vegetables, continues with a study of the other carbohydrate foods, then takes up fats and proteins. The chemistry of the carbohydrates, fats, and proteins is then the thing for which the cooking teacher finds the earliest application, and which, therefore, should come fairly early in the course if the chemistry is to be of any great value in the work on foods. To this end the following outline of topics is suggested for a course in chemistry.

1. Weight, measures, temperature.
2. Physical and chemical change.
3. Classification of matter—elements, compounds and mixtures.
4. The atmosphere, oxygen and oxidation.
5. Water. Hydrogen as a constituent of water.
6. Acids, bases, salts.
7. Non metals:

Carbon and carbon compounds: oxides of carbon, carbonates, hydrocarbons, carbohydrates, alcohols and esters, fats.

Nitrogen and compounds: oxides, acids and salts, ammonia, amino acid and proteins.

Sulphur and compounds.

Phosphorus and compounds.

Halogens and compounds.

Silicon and silicates; boron and borates.

8. Metals and their familiar compounds—those which find application in the household—sodium, potassium, calcium, magnesium, aluminum, iron, nickel, copper, silver, gold, platinum, zinc, lead, tin, arsenic and antimony.

The essential thing in such a course is that carbon and carbon compounds and nitrogen and nitrogen compounds should come early and that a study of carbohydrates, fats, and proteins should be included. The exact order in which the subjects are taken up and the method of development would be decided by the individual teacher. It will be noted that in this outline the distinction between organic and inorganic chemistry has been disregarded. This may seem a radical step, but since such a division is chiefly historical, it does not seem sufficient reason for holding to the conventional sequence of subjects now found in most text books of chemistry, especially since it has not met our needs.

The practical applications in such a course should be drawn from the problems related to the household. To illustrate, in the case of carbon and carbon compounds study should be made of the

Use of carbon and hydrocarbons as fuels.

Production of CO as a product of incomplete combustion.

Production of CO₂ from a carbonate and an acid or acid salt and by heating a solution of NaHCO₃.

Formation of carbohydrates by photosynthesis.

Hydrolysis of starch by acids; commercial application, manufacture of glucose.

Hydrolysis of cane sugar by acids.

Digestion of carbohydrate; hydrolysis by enzymes.

Fermentation of sugars by yeast.

Quantitative determination of alcohol.

Oxidation of alcohol to acetic acid.

Simple esters, e.g. ethyl acetate, methylsalicylate, and their use in the manufacture of flavoring extracts and perfumes.

Fats: Solubility and emulsification.

Saponification of fats.

Use of soap as a cleansing agent.

Effect of hard water on soaps.

Quantitative determination of fat in milk and cream by Babcock tester.

Tests to distinguish between oleo and butter, between cottonseed oil and olive, etc.

Under the metals, besides a study of the properties of the elements and their familiar compounds, special consideration should be given to

such points as the relative value of the metals as material for household utensils, the formation of metal tarnishes and their removal, the manufacture and use of glazed ware.

In suggesting such a course the committee wishes to emphasize that it should call for just as great intellectual effort on the part of the student, and should give just as thorough a knowledge of the fundamental laws and principles of chemistry as any course in general chemistry. Although it has been planned primarily to meet the needs of girls who are taking home economics, it should be just as valuable for those girls who are pursuing a strictly "academic" course. It might also be made both interesting and profitable to boys. Are not such problems as the composition of foods, the changes which they undergo in digestion, and the possible adulterations which may affect either the pocket book or the health as close to the boy's life as is the chemistry of the metals and guncotton?

Finally, it is recommended that a similar course in physics be planned which would take up such problems as plumbing, heating, lighting, and ventilating; the construction of a refrigerator, pressure cooker, fireless cooker. This might be given during the senior year and would correlate with the courses in house planning and sanitation.

To summarize, this committee recommends:

1. That home economics courses be standardized, and certain requirements in physiology, chemistry, and physics be imposed.
2. That chemistry be given during the junior year paralleling or preceding the last course in food.
3. That the work in chemistry be planned to correlate in subject-matter and in time with the work in foods. An outline of topics for a course in chemistry is suggested.
4. That such a course should teach fundamental laws and principles of chemistry and should have real educational value.
5. That it be offered not only to students of Home Economics, but to students taking the strictly "academic" course.
6. That a similar course in physics be planned to be given probably in the senior year.

MARY E. MOORE

WILBUR L. BEAUCHAMP

K. C. FITCH

FREDERICK B. EMERY

ELIZABETH W. MILLER, *Chairman.*

NOTE.—The committee will be interested in obtaining expressions of opinion on this subject from high school teachers.

SCORE CARD FOR REFRIGERATORS

Prepared by DR. W. A. EVANS

The following score card has been prepared for use in determining the comparative efficiency of refrigerators. It will be studied with interest in connection with the article on The Household Refrigerator in the December number of the JOURNAL.

(Front of card)

Name of manufacturer.....
 Name or other method of designating refrigerator.....
 Name and address of owner.....

PERFECT ALLOWED

TEMPERATURE OF FOOD CHAMBER

45

Rate as follows:

40 degrees and under.....45
 45 degrees.....43
 50 degrees.....36
 55 degrees.....23
 60 degrees.....9

Over 60 degrees.....0

Calculate proper ratings for temperatures between any two temperatures rated. Example: To rate 52, subtract 23 from 36. Divide 13 by 5. Multiply $2\frac{3}{5}$ by 2. Add 5 to 23. Rating for 52 is 28.

ICE ECONOMY

20

Rate as follows:

Heat transmission factor 1.5.....20
 Heat transmission factor 2.....18
 Heat transmission factor 2.5.....16
 Heat transmission factor 3.....14
 Heat transmission factor 4.5.....11
 Heat transmission factor 7.....6
 Heat transmission factor 9. or over.....0

Calculate proper rating for a heat transmission factor between any two of these. Example: To rate a heat transmission factor of 4. Subtract 11 from 14. Divide 3 by 3. Multiply 1 by 2. Add 2 to 11. Heat transmission factor rating of 4 is 13.

For method of estimating heat transmission factor see heading "Ice Economy" on back of card.

HUMIDITY

8

Rate as follows:

55 to 65.....8.
 65 to 75.....7.5
 45 to 55.....7.5
 40 to 45.....7.2
 75 to 80.....6.4
 30 to 40.....6.
 80 to 85.....4.8
 20 to 30.....4.8
 85 to 90.....2.4
 20 and under.....0

	PERFECT	ALLOWED
CIRCULATION OF AIR	7
If any wall of the food chamber is moist, subtract at least 2. If wall is very wet or more than one wall is moist, subtract at least 4. If air cannot freely travel from ice to food chamber and back again, subtract at least 2.		
INTERIOR FINISH	12
If ease of cleaning is perfect.....value 8.		
If finish is hard and non-absorbent.....value 3.		
If color is white.....value 1.		
DRAINAGE	3
Proper trapping.....value 2.		
Proper drainage pipes.....value 1.		
EXTERIOR FINISH	5
Total,	100

Signed.....
Title.....
Date.....

(Back of card)

INSTRUCTIONS TO SCORERS

1. *Temperature Test.* To be entirely fair the refrigerator should be set near the center of a room which is free from drafts and in which the atmospheric temperature is kept at or near 80. The food box should be empty. The food chamber should be cold before the test is begun. The ice chamber should be approximately full. The ice should be in 50 pound cubes. The food chamber should not be opened except to read the temperature. At least four readings at intervals of not less than one hour should be taken and averaged.

A test under actual pantry conditions is reasonably satisfactory. In making a test under pantry conditions, credit the refrigerator with a 5 per cent raise in rating if the temperature of the pantry is between 80 and 90, and a 10 per cent raise if it is 90 or over. If the inside door of the food chamber is opened oftener than once an hour, credit with a 5 per cent raise in rating.

2. *Ice Economy.* The food chamber should be cold at the beginning of the test. Weigh the ice at the beginning of the test. Weigh the ice left at the end of the test. For the purposes of the test, the average temperature of the food chamber and of the pantry for the period of the test must be known. Also the number of square feet of the outside surface of the refrigerator.

To get the surface of the refrigerator, measure the front, multiply by 2. Measure one side, multiply by 2. Measure the top, multiply by 2. Add the three products.

Method of determining heat transmission factor—

Number of pounds of ice melted x 142

————— = Heated transmission factor

$$\left\{ \begin{array}{l} \text{Number of square feet of wall x difference} \\ \text{between room temperature and food} \\ \text{chamber temperature} \end{array} \right\}$$

Example: A cheap refrigerator with 39.5 feet of external area maintained a difference of 18° for 24 hours by melting 40 pounds of ice.

$$\frac{40 \times 142}{39.5 \times 18} \Bigg\} = 7.99 \text{ heat transmission factor which gives the box an ice economy rating of 3.2.}$$

3. *Humidity.* In making the humidity test a wet and dry bulb thermometer (hygrometer) is to be used. At least four readings are to be taken at intervals of not less than one hour. The humidities are to be averaged. If the tester is without a hygrometer and cannot test humidity, he may add 8, or a proper proportion thereof, to the ratings for circulation of air.

4. *Circulation of air.* Note whether the food chamber can be ventilated. If it can be, give credit for that fact in ratings. Note whether the cold air flows from the ice to the food and the warmer air from the food to the ice, or the probability of such flow, continuously. Credit for efficiency on these points. Note moisture on walls or of salt placed in food chamber. If the humidity be not taken and the humidity rating be added to circulation of air, note especially evidence of condensed moisture on walls.

To demonstrate air currents, place lighted smudge at one or more points in the food chamber and also in the ice box and note the directions of the flow of smoke.

5. *Interior finish.* Ease of cleaning refers to cleaning of the food chamber, and all shelves therein, the ice chamber and the drain pipes. Credit for removable shelves and rounded corners.

6. *Drainage.* See that the trap in the drain pipe is in working order and that no air can enter the interior through it.

7. *Exterior finish.* Value on the basis of general appearance.

THE OFFICE RESTAURANT AND ITS OPPORTUNITIES

LUCY S. KELTON

Dietitian, Larkin Company

As is well known, many of the large business establishments nowadays are providing lunch rooms and restaurants for their employees.

This step is usually taken, not only as a welfare movement, but because it makes for efficiency. Hot, appropriate lunches add much to the general health, and so to the regular attendance of the employee. Not having to go out for lunch gives the employee more time for rest and recreation, and she is more apt to be punctual at the afternoon session, and better fitted for her work than if, as is so often true, she had hurried home, eaten lunch hastily, and hurried back to work. This is especially true in winter when storms and wet weather induce colds, sore throats, and worse troubles. It is therefore possible for a restaurant department to contribute quite as much toward the good health and regularity of the employees as the medical department does, though properly speaking these two should be one, the nurse and the dietitian both being under the surveillance of the company doctor.

To furnish wholesome, nutritious food at the lowest possible cost is the first essential for a company's restaurant. The menus should be planned to meet the requirements of the employee and there should be a marked difference in the menu for an office and for a factory—one needing a diet for the sedentary, and the other the larger quantities suitable for the manual laborer.

Because these restaurants are a one-meal-a-day problem this cost is usually higher than it would be were three, or even two, meals served. For this reason every opportunity for additional service should be welcomed. The following possibilities suggest some such opportunities:

A delicatessen counter may be established where leftovers are sold to those who desire them. Employees who go home and prepare an evening meal are very glad to take a dessert or soup or even meat that is ready prepared, and this gives the restaurant an outlet for food that might otherwise be wasted, or at least be difficult to use.

Eggs, milk, and butter may be bought at wholesale prices and sold at a slight profit but below the retail market.

With the consent of the company, and on the company doctor's prescription, eggnogs or similar foods may be served to employees who have returned to work after an operation or a sickness.

Suppers may be served to employees working overtime or going to night school.

Suppers may be served in connection with the welfare or social service department, since nearly every social meeting or club is more successful and better attended if food is served.

Lunches may be packed for picnickers, hikers, or for those going on short trips.

Although this extra work might be undertaken for the purpose of increasing the income and decreasing the overhead cost of each dish served for lunch, one soon loses sight of the motive when one sees the value of the service rendered in the above mentioned ways and the gratitude felt by the recipients.

Needless to say, the dietitian can also take charge of the lunches for persons on a special diet. An office force is not necessarily large to have many persons who are dieting for one cause or another, and it takes but little foresight to help these patients out of their difficulties. The manager who has diabetes is very grateful for a little variety in his limited diet, or a girl with colitis appreciates having somebody who will be interested in seeing that she has proper food; also there are many persons who through ignorance are not dieting but should be. A little personal interest and solicitude for the cases that reveal themselves day by day will work many cures, and thus contribute largely to the loyalty and efficiency of the employees.

A dietitian has many other opportunities to advise and teach. Frequently she will be consulted by an employee as to the proper food to serve at a church supper or party in which the employee is interested. At such times a good lesson may be taught on food values, balanced menus, and economy. This is perhaps the most important service a dietitian may perform, though there are so many opportunities, of such varied types, constantly presented that it is hard to distinguish the greatest. In these and many other ways a dietitian's work in an office restaurant is capable of giving her the highest satisfaction one can know—that of being of real service to one's fellow beings.

THE AMERICAN PUBLIC HEALTH ASSOCIATION

CINCINNATI, OCTOBER 24-27, 1916

Mrs. Ann Gilchrist Strong consented to represent the American Home Economics Association at this meeting, and sent a full and interesting report that can be given here only in part. One needs only to glance over the program, with its many vital topics, to realize how impossible it would be for us to give any adequate report even of such matters as are more or less directly related to our own work.

Such topics as Saving Sight, Saving Citizens; Birth Control; Infant Welfare; the Control of Public Milk Supplies; Water Supply; Sewage Disposal; the Collection and Disposal of Wastes from Small Municipalities; Cold Storage; and many similar ones meet one's eye on every page.

Mrs. Strong says:

Upon those of us who were privileged to attend the forty-fourth annual meeting of the American Public Health Association in Cincinnati, the impression was deeply made that Home Economics in its several phases is an integral part of the Public Health Work. It was surprising and gratifying to have frequent allusion made to the necessity for instructing the housewives, children, and the public in general in school and laboratory.

Dr. H. E. Barnard, Indiana State Board of Health, said:

Whenever the average person thinks of food inspection, or of any of our work in "food control," they immediately think of food adulteration. Usually they stop thinking at this point. However, the matter of food adulteration is of secondary importance now. Adulterated food is a comparatively infrequent thing. We do still have to deal with the questions of contamination, illness among food handlers, typhoid carriers, and bad sanitary conditions, but the important thing now is to educate the people as to what foods produce the best results from the nutritive standpoint.

Dr. Carl L. Alsberg, of the Bureau of Chemistry, in discussing the Public Health Aspects of the Work of the Bureau of Chemistry explained the use of the term adulteration.

The law applies the name to certain violations which have no direct effect on the public health. For instance, the substitution of a cheaper, although equally wholesome product, for a more expensive, but no more wholesome and no more nutritious, product is termed adulteration. For example, a large manufacturer had sold a mixture of honey and invert sugar under the

name of honey. Chemically speaking, invert sugar is more nearly pure than honey. Nothing less wholesome, nothing less nutritious had been substituted. There was no direct effect on the public health. However it was an offence against the public purse—a plain case of stealing—a fraud with no relation to public health. This was an adulteration under the foods and drugs act, and is an example of the most common form of adulteration.

Water is the most common adulterant. A large percentage of cases in which prosecutions are made are for the adulteration of foods with water.

The law defines an article as adulterated if it contains “an added deleterious ingredient.” Now, the manufacturer does not intentionally add a large quantity of a virulent poison. Usually we have to deal with careless contamination of food products rather than with willful offence. A food product is adulterated if it contains traces of lead, copper, zinc, etc. Perhaps the tin coating of the vessel has worn away and the lead lining has been exposed without the manufacturer being aware of it. The products are nevertheless adulterated. The law must compel manufacturers to be more careful in the handling of foods.

There are a few cases of the willful addition of harmful substances to food products, but they are very few now. The commonest example here is the addition of methyl alcohol, a poison, to certain liquors.

Another type of cases defined as adulteration is that in which articles of food are spoiled or have undergone some form of decomposition. This part of the law is capable of a very broad interpretation. In this way it is possible under the food and drugs act to proceed against inter-state shipments of milk, decomposed canned goods, and other products.

Dr. Alsberg also spoke of a series of problems in connection with the nutritive value of fats and oils. We really know very little of the nutritive value of the hydrogenated oils—such products as the many cooking fats produced by hydrogenating cotton seed oil.

Lucius P. Brown, Director, Foods and Drugs, New York City, in discussing the Municipal Food and Drug Inspection in large cities said that:

A fairly complete census of the food handlers in New York City made a year ago showed 50,000 retail food stores, or about 1 to 110 inhabitants. Smaller cities have a large number in proportion to the population. This gives some idea of the problem of controlling a municipal food supply, which must include the following:

A. Supervision of sanitary conditions of manufacture and distribution, including transportation, display, and sale.

B. Prevention of sale of unsound foods, foods from diseased animals or plants, foods carrying pathogenic microorganisms, foods poisonous in themselves.

C. Prevention of sale of foods which have been adulterated, misbranded, or advertised better than they really are.

The discussion brought out the importance of the selection of the personnel to enforce the laws. Food inspectors must be possessed of sanitary knowledge and common sense. They cannot be selected by civil service examination alone. Courses in food and drug control established in the state colleges would greatly increase the efficiency of the governmental agencies.

Royal S. Meeker in discussing the Relation of the United States Department of Labor to Industrial Hygiene quoted Dr. Goldwater in his statement that industrial hygiene has to do with hours, muscular and mental strain, temperature, light, air, sanitation, wages, food, beverages in the home, and home conditions.

The Sociological Section held one joint meeting with the section on Vital Statistics, at which the Application of the Statistical Method to the Field of Socio-Health Investigation was discussed by Dr. Louis I. Dublin, New York.

The need of careful, accurate work was emphasized and these errors frequently met with in the literature of public health work were criticised.

Errors in the planning of the inquiry, preparation of the schedule, collection of the data. Errors in the editing and classifying of the data. Errors of interpretation and analysis.

Mr. Franz Schneider, in a paper on The Shortcomings of Socio-Health Investigation, cited the mis-use of statistics, for instance:

We have no satisfactory evidence of the relationship between housing and health, yet well-meaning persons are continually quoting statistics proving that certain housing conditions are responsible to a certain degree for certain conditions. This is not a situation demanding statistics, and certainly not a situation where one with any knowledge of statistical method would dare to dabble in statistics.

We should carry on investigations in a scientific spirit, not in the spirit of propagandism of the social enthusiasts. The failure of social science to win recognition is a failure common to all the other sciences. We must guard against hasty judgments. Not many minds are of the unified type to carry on such investigations. However the work is so filled with human interest that everybody does dabble. We do not observe without passing a moral

judgment and so the investigation suffers. Let us have less assertion, less feeling, more science. Keep the emotions out of sanitary science.

One valuable paper was on *Some Recent Tendencies in Scientific Studies of Foods, and Their Practical Significance*, by Dr. H. D. Pease, New York. He referred to the predictions of Malthus in regard to the relationship of the increase of food supply to the increase in population of the world, asking how can we make our food supply keep pace with our population? He suggested conservation of food sources, extension and intensifying of production and utilization in every possible direction; discovery of new sources of supply; more scientific use of the existing and of the still to be developed supply.

The present war will necessitate utmost conservation and further development of the world's food supply, and will put production and distribution of the food supply on a more scientific basis.

The fundamental problem involved in the quantitative and qualitative aspects of the present supply is: more food products, better and more efficient handling, more economical and scientific selection of the diet, best methods of preserving and increasing soil fertility.

Mr. Richard A. Feiss, the Clothcraft Shops, Cleveland, discussed *Scientific Management and its Relation to the Health of the Workers*.

Among other things he emphasized the need of a complete medical department free to employees, with nurse, doctor, dentist, oculist (this stops inefficiency and saves time); of instruction given and work followed up concerning health; of proper diet, with good food provided and served to employees; of education and follow up work in the home.

In a symposium on *Public Health Nursing*, Miss Mary Beard, President of the National Organization for Public Health Nursing, made an interesting and forceful plea for the union of the two branches of health nursing, public and private.

As to the question whether there should be different nurses for different purposes, such as prenatal nurse, and school nurse, Miss Beard is sure that more good will be accomplished by combining these various phases of the work and giving them to one nurse, who will then work in a smaller district, than of having several nurses working in larger districts. This involves the "Health Center" idea, which means forming small units in the cities cared for by one or two persons. In this way, since there is only one nurse in a certain district, and she is there continuously, she is able to become better acquainted with the families and their problems, and can establish a closer relation of confidence.

FOR THE HOMEMAKER

WOMEN AND CLOTHES

WHAT THE CLUBS ARE DOING IN THE MATTER OF STANDARDIZATION

HELEN LOUISE JOHNSON

At the Biennial Convention of the General Federation of Women's Clubs held in Chicago in June, 1914, the following resolution was presented and passed:

Resolved, That this Convention, in full recognition of the rights and privileges of the individual, places itself on record as heartily in favor of the movement for simple, becoming, and modest designs in women's clothes.

It is one thing to prepare and present a resolution. It is quite different and usually far more difficult to carry out its provisions. This particular one was referred to the Home Economics Department of the Federation, whose business it then became to actively promote the movement the resolution had recognized. But was there any real movement toward more "simple, modest, and becoming styles in women's clothes?"

A movement means that public opinion has been sufficiently roused so that a considerable number of people are not merely talking about, but actively interested in promoting the same thing. Mere agitation is not a movement. A movement means concerted action.

The first thing to be determined was whether there were enough women desiring to be released from the tyranny of the ever increasing changes of style so that concerted action toward actual freedom could be counted upon.

There were two groups of people whose aims, methods, and purposes needed to be investigated and analyzed; those who present, make, and sell styles, fashions, and garments; and those who choose to wear them. Were we, as so many believe, the mere puppets of a mad thing called Fashion, or did we decree that we should appear in sheathed or pleated, plain or flounced, long-waisted or no-waisted garments, all

in too short a time for even the shoddiest material to wear out? Yes, there was protest at this waste and misuse of valuable time, strength, and money, but from whom and from how many did it come? Was there any definite action that could be taken?

As soon as our investigations began, we found an almost unbelievable amount of unrest and dissatisfaction at the prevailing condition of things, not alone among busy women who can no longer spend time in the pursuit of dress, but also in the garment trade itself. We also had belonged to those who fancied the mysterious influence called "They" resided with the makers and fashioners of our clothes. To be confronted with the incredible statement that we are "They" was startling. But it is true.

Again and again have we been told that consumption is the economic function of the woman. Over and over it has been repeated that production is governed and controlled by consumption; that we choose what shall be grown, made, and presented for sale. And having ears we hear not. Yet it is so simple, so plain a fact. Production of a commodity ceases when the consumer or user chooses something else.

An illustration will make this plain. Somebody somewhere made a Teddy Bear. It was tentatively presented for sale, that is, for consumption. Then people began to choose Teddy Bears, and the demand created a supply, while the choice seriously, in some places disastrously, affected the doll trade. Had dolls continued to be chosen, the Teddy Bears would not have been made.

It is our somewhat complete failure to realize the truth that choice always *precedes* production that has led us into so many economic errors. It may be that it is not presented in the way to make the user appreciate that she is a free agent, while the producer to win his living must make what she demands. Whatever the reason for our failure to measure our responsibility in this matter, the fact remains that there are but two great fields of economic activity, namely, the making of things and the using of them, and it is our choice in the use of them that regulates their making.

It is hard to believe, for we go into a great store and are there confronted with a huge stock of goods in which we have but slight interest. We are seeking a certain kind of shoe, of coat, of dress, and we cannot find it. We are told that we choose, yet we cannot find the thing we want to buy.

Hard as it may be to accept, difficult as it is to believe, it is never-

theless a fact that demand does precede supply, and if an article is no longer chosen, its production ceases. We do not see it because the choice is so far away from the immediate offering for sale, and it modifies production so gradually. Things are made in view of an anticipated choice.

Some of it is forced upon us, but rarely by the producers. Their sole aim is to make or produce a desirable commodity, that which people want the most, and will therefore buy. If you and I could steadily refuse to buy or choose that thing which we do not consider desirable, in place of accepting makeshifts, and taking things we really do not want merely because they are there, we would soon discover the strong and immediate effect of our influence.

The situation in regard to women's clothes presents positive absurdities. On the one hand are hundreds of women all over the country rebelling against their unfortunate slavery to the vagaries of fashion and style, and bitterly complaining of those whom they feel force these changes upon them. On the other hand are the garment makers and sellers, wholesaler and retailer alike, groaning under the burdens the condition imposes upon them, and they lay the blame upon the consumers, the buyers, the women. Yet except in some isolated cases, neither side is apparently trying to do anything to change the situation, or find a solution of common difficulties.

In order to understand any condition it is needful to know what causes it, and our attitude toward dress seems not to have been sufficiently analyzed. Years ago women made their own clothes and did all sorts and kinds of harder things besides. But a dress once made lasted for years, not alone because its material was good, but because it remained "in style." Then came other changes. Prosperity increased, and with it women were released from many of the privileges as well as the hardships of household work. Certain activities were carried out of the house into the industrial world; others were carried on by people hired to come into the home, and a wide margin of time was released for the woman.

At that period there were neither colleges nor clubs for women. They were denied outlets for such intellectual or artistically creative impulses as they might possess, and the sort of civic work that now occupies so many was practically unknown. So, in order to fill their leisure time, a round of social functions was devised, and for these functions women must dress, not merely becomingly, but competitively, each to outdo the other.

We do not need to enter into the history of the Pursuit of Dress. It is especially well told in Dr. Mary Robert Coolidge's book "Why Women Are So." We merely refer to the fact that the things we believe fashion imposes on us, the constant changes in style, the extremes of fashion, the time and the money we must all waste simply to avoid looking queer, arose from conditions now wholly altered.

Today women are offered opportunities for higher education. They are busy in all sorts of civic, public health, and philanthropic work. They have neither the time nor the strength to give to the pursuit of dress, and they are very openly rebelling against the seeming dictates of the Mogul called Fashion. Moreover, the producers of garments are suffering, and the workers are in the worst state of all. The most appalling fact the Home Economics Department of the General Federation ascertained was the result of the constantly changing styles upon the garment makers themselves.

We found this condition in the best known ready-made style houses of the country. Early in the year the styles for the next summer are presented to the large wholesale concerns. They must choose from these the things they believe may be most acceptable to the women the next summer and fall. Then they make up a small quantity. Of course, in the aggregate, this would mean many thousand garments, because they are sent all over the country, and tentatively presented to the women early in the spring. Meantime the workers are unoccupied.

Then the orders begin to come from the retail houses. Such and such things seem to be going. The women have chosen to wear certain styles. The workers are called back into the factories, and are pressed at top speed to produce enough of this particular garment to fill that demand. It is neither a steady nor a lasting one. Within a very short time a slackness appears, and the factory is again depleted of its workers. Then another demand comes, and they are called back to repeat this process.

There is a fundamental difference between the men's and the women's ready-made garment trade. Trousers, for instance, exhibit very little difference in cut or style. There are certain styles of men's garments which are never out of fashion. These can always be made, because there is always a demand for them. The consequence is that while even the men's garment trade is a seasonal employment, keeping the makers busy for five months, then a slack time for four or six weeks, then run-

ning five or six months again, with another short slack season, it does not exhibit the vagaries of the women's garment trade, which is an extremely seasonal employment, with all the evils that result from such.

Suppose you and I were working for eight or ten dollars a week, and were able to do this for January, February, and March, then were put out of the employment with which we were familiar, at the same time that hundreds of other people were put out of the same employment, so that it was quite difficult to find anything else to do, and that we remained idle for April, May, and June. How much could you save to carry you through the three remaining months if you worked for three months on eight dollars a week? How strong and capable of working would you be on the kind of food you could get during those three months? And suppose you were called back in the hot days of August and September to speed up as fast as possible, because the women of this country had chosen to continually change the style of their garments?

I want to say there are no words of condemnation that I believe too strong to characterize the ignorance or selfishness of the women, who without a thought of the people who make their clothes, are willing to be led by a thing they call fashion. It is ridiculous that we should lack the courage to as completely standardize our street clothes as men have standardized theirs. It will not put the dressmaker or the custom tailor out of business any more than the men's custom tailor has been done away with because so many men wear ready-made clothing, and all men dress more or less alike. It has nothing to do with the personal adornment of a woman in her own home, in her evening, dinner, or party gown. She can express all the personality she desires in such things, but if we are to honestly think of the other woman in a fine, true and womanly kind of way, the time is here when all of us have to make up our minds that we are willing to free ourselves from the dominion of a belief called "They."

One cannot too often say that the women choose what shall be made and worn. You choose. I choose. We choose. We are *They*. And if enough of us throughout this country will only realize the necessity, for the sake of the other woman, if we cannot think of it for our own selves, for adopting at least some certain forms of street suits which can always be made, a lot of this economic waste of time, strength, and money can be saved.

There are two definite responsibilities consumers bear. One is that

certain things are made at all, and the other, the conditions under which they are made. We ought, either as home economics teachers and preachers, or as workers in the General Federation, not alone to realize, but to perform our responsibility toward others. Our own example, what we are doing, is never an insignificant thing, no matter how little influence we may fancy we have or exert. And it is an established fact that what women buy and use directs and modifies the procedure of the producing world.

Moreover, it is our duty, as well as our privilege, to look as well as we possibly can. Our personal adornment, our appearance, can no more properly be ignored than our good manners. It is part of the actual business of being a woman, only there are too many who mistake the purpose of clothing and the reason why we must properly and becomingly select that which expresses us.

This seems to have taken us far away from that resolution, but it is merely directing us toward the path the Home Economics Department of the General Federation had to follow when the resolution was referred to it. We had first to determine what was actually occurring in this matter of dress, and what had led to the very uneconomic and constant changes of style, in order to see what could be done to accomplish our purpose.

Our purpose, our aim, was and is nothing less than a freedom from a kind of slavery. I want to make this perfectly clear. Can we define freedom? Are there words to make this spiritual idea a living reality? Freedom is a much nobler word than liberty. We are at liberty to dress much as we please.

Whether we are free to do so or not depends upon other things than the law of the land. Will you agree that complete personal freedom only comes when every inner force has been developed to its highest efficiency? Freedom is the result of a complete command of one's resources, and the power to use them at will. It is an ideal, and perhaps has never been attained. But in the degree in which anyone of us approaches this, she has secured her own freedom. And freedom is bought with a price. We are only masters of circumstance when we are captains of our souls, when we have the courage to be free. It was Emerson who said that character is our only definition of freedom and power.

But I want to put it in another way. There is a fixed necessity of life to give a certain amount of time, strength, and thought to the needs of the body. This cannot be escaped, hence it follows that the better

this slavery is performed, the more freedom; the more it is ignored or abused, the worse slavery. Freedom represents that margin of time and strength left for other and better things after the necessities of life have been cared for. The problem of economics today is how to provide most perfectly for fundamentals so as to have the largest margin of time and strength, and money also, for the more human things. Shelter, food, and clothes are in the main under our control, and if I had to state what I considered the greatest factor in the gaining of these with the least expenditure of time, strength, and money, therefore with the greatest amount of freedom, I would say it was a certain attitude of mind toward the subject, a sense of responsibility, a realization that the use of these things involves a moral, an ethical ideal. More, it involves the very thing which has been voiced as the great inspiring spirit of club work, namely, service. For it is not enough that we voice moral principles and elevating ideals, and put the concrete subjects relating to these on our programs. This can avail but little, unless we can embody them in practical rules of conduct which we observe in our daily lives. Our knowledge must be converted into social standards to which all must conform.

The amount of freedom we may get depends to a degree upon the clearness with which we can measure the relative value of those things that affect our daily lives, the things we choose to buy, to use, to eat, to wear, and to live with. And it is our failure to make these comparisons, to measure, to see the thing itself in its relationship to us and to our surroundings that leads us to economic disaster, or a wrong attitude of mind.

When the Home Economics Department of the General Federation began its work along these lines, it issued a small pamphlet for club study, from which I quote:

There are many reasons why we urge upon all club women, not alone a study of this situation as it presents itself at this time, but a determination to meet it in sane and proper ways. First, because we earnestly believe that this is one of the vital steps in securing that standard of refined and womanly living which should mark this period of our club life.

Second, we know it to be necessary to the lessening of the economic pressure burdening so many thousands in our great and beautiful and fertile land.

Third, we are our sisters' keepers. The habit of following extreme and quickly vanishing style creates great hardship for those who produce as well

as wear ready-made garments. The women who demand the ultra fashionable in dress should be brought to consider the effects of this upon the lives of those who must wear what can be bought and whose clothes are worn until they wear out, all too quickly at the present time.

There can be no question as to the effect and influence that the General Federation of Women's Clubs can have over things of this kind. This Department deeply and sincerely desires and hopes to rouse earnest discussion of the situation and what we can do to meet it in the best and most womanly ways. We believe the time is here for us to demand and secure common sense as well as beauty in clothing. We believe it to be essential to the continued peace, prosperity, and progress of our country, that we who represent organizations and high aims should say, not one or two but all of us: "We stop this extravagance and absurdity in styles and changing fashions right here."

How may we do this?

What we may do is to follow the example long ago set by men, and more completely standardize our street clothes. Standardization is not a uniform. It is a principle. Men have not adopted uniforms except in places where they wish to distinguish themselves from others, and for such purposes women have uniforms as well. A soldier's or a nurse's uniform is a mark of honor, and a woman's street clothes should mark and show her nobility, her womanliness, and not her servile imitation of some one else unworthy of example.

Some years ago the majority of well-dressed women wore plain tailor-made suits on the street. There should be enough women desiring these at all times to make such well cut and made suits what is called a "filler," that is, they should be made between times in the dull season. But because of many things which there is not space to discuss, some having to do with the real art which a woman's dress should evince, that extremely plain garment is not the only one that may be selected for standardization. There should be several selections. The trouble is there is now not one. We can afford to have changes of style and cut and certain extreme things for extreme people if only the majority of women like the majority of men are choosing and wearing some one, two, or four kinds of suits or dresses.

At the Biennial Convention held in New York City in June, 1916, the Home Economics Department presented what has come to be called the Biennial dress as one of the solutions of our troubles. The selection of this particular dress was made by a number of men and women,

designers, producers and consumers, who met in consultation and felt it presented principles worthy of standardization.

The factors that determined our selection of the dress now called the Biennial suit or Biennial dress were these. We had to select a style that would be becoming to any one when properly modified and adapted. This one is. We had to select a style that could be made either as a suit or a dress. This can be. It must be capable of reproduction in any kind of fabric; cloth, silk, light or heavy weight, thin or thick. And this Biennial dress has been and is made in crepe de chine, voile, crepe, serge, silk, taffeta, charmeuse, and so forth. The style chosen was arbitrarily selected by a number of people in consultation, but only because it conformed to certain principles, was attractive, artistic, good, and, moreover, hygienic.

The actual test as to whether enough women desire this freedom to make it a movement, of course, will not come this year, or perhaps the next one, but the year after. It is not in inducing women to realize that standardization is a principle, and not a uniform, and that we are really fighting for that freedom which all crave, an opportunity for real self expression, but in keeping them alive to that realization. A few will appreciate all this means, but it is only as we win and hold the many that this resolution will prove to be true, and there will grow to be a real movement. Now there is a deal of talk, and there are fortunately many throughout the country who are suggesting different forms of standardization and giving form to different ideas of it. But this talk must converge into concerted action, and there must be thousands of women who will purchase their street suits in the way men do theirs, to last, and to be like, not unlike the other woman.

It must be done, for it is a moral, not a fashion issue. It is a civic duty, an ethical responsibility, which honest thinking women can no longer avoid.

There is not a question but that our habiliments influence our behavior. We know that. We want and need art and beauty in our clothes. To a degree these have been given us in the past two or three years. Extreme use of any style is neither art nor sense, and does not lead to beauty. But there have been special commendable features in the garments we have so recently been wearing. Freedom about the neck, throat, and chest is as hygienic as freedom about the waist, and we have had both. The plain, close fitting, sensibly short skirt is sanitary, economical, and convenient. Short sleeves are useful in many

ways, and are, when admissible, a source of great comfort and saving for many who must work with hands and arms at office or household. All of these things should be kept, and they can be if we choose that they shall. What it most needs is courage. I cannot do it alone. You cannot do it alone, but we can, and if *you* will, we will accomplish it together.

What we need to do is to study the situation, analyze the conditions and its causes, and see what we may do to lead us toward a better procedure. Our clothes should be appropriate, suitable, becoming. We should dress for our business, and if we are to be beautifully gowned we must learn to select first that which fits, or is suited to the wearer, and next that which fits or is suited to the occasion and to the environment.

It would seem that the word we ought to use in this connection is decorum, that which becomes, and to select that which fits or belongs to the street, the house, the office, the kitchen, the opera, the social function, but above all belongs to oneself.

HOME ECONOMICS FUNDS

It is said that three-fourths of a million dollars are now available for Extension Work among Farm Women. This money is derived from the United States Department of Agriculture, the State colleges of agriculture, Federal and State coöperative extension act funds, and county and other local sources.

A part of this money is used to employ women county agents. The number of counties with women agents has increased during the last three years from 279 to 478. In addition there are employed a large number of home economics specialists and supervising agents having a field larger than the county. In 1915-16 the total number of home economics extension workers was 600, of whom 350 were women county agents, the others being the supervising agents and home economics extension specialists of the State colleges.

THE HOMEMADE FIRELESS COOKER

Farmers' Bulletin No. 771, of the U. S. Dept. of Agr., Homemade Fireless Cookers and their Use, issued in December, 1916, contains some particularly careful directions for making and using the fireless cooker, with several illustrations showing the details, not only of the box, but of the utensils. To many the greatest convenience of the fireless cooker,

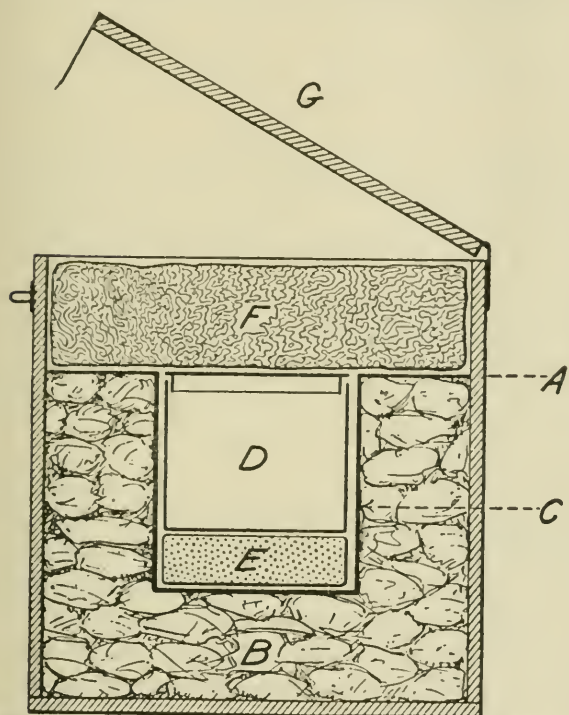


FIG. 5.—Longitudinal section through fireless cooker, showing details of the construction. A, Outside container (wooden box, old trunk, etc.) B, Packing or insulating material (crumpled paper, cinders, etc.). C, Metal lining of nest. D, Cooking kettle. E, Soapstone plate, or other source of heat. F, Pad of excelsior for covering top. G, Hinged cover of outside container

even more than the saving of fuel, is the saving of time and thought, for foods cooked in it do not require watching and may be left to themselves while the cook is occupied with other duties. If the family is away from home it may be used without danger of fire or over cooking the food.

Several substances are suggested for the packing and insulating material. Asbestos and mineral wool are undoubtedly the best; ground cork, hay, excelsior, Spanish moss, wool, and crumpled paper may also be used. Of these crumpled paper is one of the most satisfactory, except where

a stone is to be used as an extra source of heat, when it is much safer to use non-inflammable material, such as the asbestos or mineral wool. A good substitute for these are the small cinders left from coal ashes, preferably those from soft coal, though those left from hard coal burned in the kitchen range will do.

A number of recipes with explicit directions for the use of the cooker are included in the pamphlet.

SWEET POTATOES

The digestibility of sweet potatoes has sometimes been questioned, and an occasional mother has refused to allow her children to eat them. A new bulletin, No. 468, issued by the United States Department of Agriculture on "Potatoes, Sweet Potatoes, and Other Starchy Foods," says that while not many special experiments have been made to test the digestibility of sweet potatoes what little work has been done indicates a degree of digestibility equal to that of white potatoes. Any difference in the digestibility of the protein is too slight to be of practical importance.

It is also a matter of common experience that they are wholesome and ordinarily digest without distress. The occasional digestive disturbances that occur may be due to the common addition of large quantities of butter to lessen the dryness, thus making a somewhat rich mixture. It has been suggested by others that the tendency to pack in a solid mass may be responsible for this, just as banana or cheese swallowed "in a lump" offers a difficult task for the digestive organs. In either case the difficulty would not lie in the characteristics of the sweet potato, but in its method of use. The bulletin goes on to say:

Considering both composition and digestibility, the nutritive value of sweet potatoes is much the same as that of white potatoes and they are well fitted to occupy the same place in the diet and furnish a palatable substitute for white potatoes. Their characteristic and pleasing flavor has the advantage of giving variety. In the North they frequently cost somewhat more than white potatoes, but are still among the cheaper vegetables. In the South they are usually cheaper than white potatoes and merit their extensive use.

STUDENTS' CONTRIBUTIONS

A CONTRIBUTION TO THE STANDARDIZATION OF CONDITIONS IN COLLEGE HALLS FOR WOMEN

ALBERTA BORTHWICK

Much has been said on the subject of whether the right kind of living conditions are found in college halls for women. With a view to finding what the management was and whether the meals supplied the necessary foodstuffs the following questionnaire was sent out to several college halls for women, representative of different parts of the country.

Have you any data:

1. As to the cost of service per person in a college hall?
2. As to protein and fuel value furnished per person per day?
3. As to percentage cost of different food material used per year or per month?
4. As to ash content: iron, phosphorus, and calcium content of food served.
5. As to entire cost of food per month or per year?
6. As to cost of upkeep per year, including replaced china, glass, linen, rugs, furniture, varnish, paint, etc.?
7. As to nutritive ratio of menu served?

Only one answer containing any information was received. With practically no data as to what was being done in other institutions this problem was then worked out in Hamilton Hall, Montana State College, Bozeman, Montana. Absolutely no change was made in the régime or in the meals served. The problem was to work out the cost of food per capita per month and per day for a period of seven months, with the per cent of the income spent for each division of foodstuffs; also the expenses of operating, including upkeep and repair. The entire food served for eight days has been computed in calorie value, protein, CaO, P₂O₅, iron, acid, and base content.

The division of foods has been made as follows: meat and fish, including dried beef, bacon, ham, fish, pork, veal, beef, mutton, fowls, sausage, wienerwursts, and bologna; eggs, cream, milk, and cheese; fats, including salad oil, lard, and butter; sweets, including syrup, molasses,

sugar, honey, jelly, preserves, marmalade; fruits, including all canned and fresh fruits; nuts; vegetables, including all canned and fresh vegetables; cereals, including flour, bread, crackers, and breakfast foods; miscellaneous, including baking powder, borax, coffee, corn-starch, gelatin, jello, pickles, condiments, olives, chocolate, cocoa, tea, vinegar, extracts, spices and yeast.

Other divisions are: operating expenses, including telephone, payroll, fuel, ice, office supplies, soap, and cleaning powders, laundry, and light; upkeep, including replaced linens, glass, china, silver, utensils, shades, brooms, electric lights, varnish, wax, furnishings, plumbing, repairs, and labor for same.

In working out the following problem all the data have been taken from Sherman's Food Products, 1915 edition. No data were found for mineral matter in the following: canned tomatoes, canned cherries, canned pineapple, canned apricots, corn flakes, graham flour, jello, pickles, preserves, jelly, olive oil, conserves, and canned logan berries. The mineral content in the above would raise the average mineral content of the dietary.

SUMMARY

Average energy value per day.....	2549 calories
Average protein value per day.....	73 grams
Calories supplied by protein.....	12 per cent
Nutritive ratio per day.....	8
Average C_2O per day.....	0.7816 grams
Average P_2O_5 per day.....	2.335 grams
Average iron per day.....	0.0148 grams
Average base excess per day.....	10.12

Expenditures for different classes of food

	<i>per cent</i>
Meat and fish.....	32.517
Eggs.....	5.794
Milk, cheese, and cream.....	8.377
Fats.....	11.492
Sweets.....	7.264
Fruits.....	12.21
Nuts.....	0.275
Vegetables.....	8.608
Cereals.....	5.347
Miscellaneous.....	7.715

Cost per day per capita

Food.....	\$0.37
Operating expenses.....	.17
Upkeep.....	.04

EDITORIAL

The American Home Economics Association and the National Crisis. The American Home Economics Association in Kansas City passed the following resolution:

WHEREAS, The United States is facing a national crisis which may call for definite service from her citizens; be it

Resolved That the American Home Economics Association, in session with the Division of Superintendence of the National Education Association, send the following message:

To His Excellency, the President of the United States, Washington, D. C.

SIR:

The American Home Economics Association, the national organization of professional workers in home economics, asks to be enrolled by the President of the United States among the associations at his command for any possible service, if need arises.

Through

CATHARINE J. MACKEY,
President, American Home Economics Association.

This message was telegraphed from Kansas City.

There are many things that the members of the Association can do. First of all they can use every influence in their power, as teachers and mothers, to promote that internationalism that can only come from a common understanding of one another's purposes and ideals. They can hold before young people, in the name of the home, the vision of democracy and of coöperation that will lead toward peace, not war; and they can teach that the highest form of patriotism may be developed in the daily routine of work.

Mrs. Calvin, speaking at Kansas City, said that last year there were 17,000 home economics women in college, besides the 40,000 to 50,000 women who have already been trained in home economics colleges. These are women with the ideals of service. If war comes, their training should enable them to help in certain definite ways. It has been stated that while Red Cross classes for training in emergency work and

nursing are largely attended, those in dietetics have met in some parts of the country with little response. The members of the Association may need not only to hold themselves in readiness to supply trained dietitians, but to lead in giving more general instruction in food.

Teachers and married women, without deserting their present posts of duty, can assist the government by disseminating information in regard to needed conservation, and by directing such conservation movements so that they will be carried out in the most effective way. We must know what government supplies will be least in quantity and yet greatly needed, so that conservation is essential, and even the sacrifice of personal wants may be necessary. For instance if there proves to be a shortage of leather in the United States, it will be necessary that soldiers be well shod, not women; if there is a shortage of clothing material, soldiers must be well clothed though others go without the new garment.

If we could convince the household of the need for conservation of food material we should do a service no less effective for peace than war. Thousands of tons of butter are imported into this country and yet probably an equal amount of usable fat is thrown away. It is said that our consumption of sugar for the decade ended 1912-13 was 42.9 per cent greater than the consumption for the preceding decade, while the population for the same period only shows an increase of 21 per cent. How much of this sugar goes down the sink when the tea and coffee cup with its undissolved residue is washed?

Possibly we have no right to talk about the high cost of living until we have learned to use well without waste the resources at our command.

Many Home Economics women are efficient in handling large quantities of food and could handle supplies at base hospitals, as English women are doing, and some women who have had special training in sanitation and health could report to their state colleges for a month of instructive training.

If the call comes every woman in the United States will feel willing to assist in some way. Let us unite in our earnest desire that this call may not come! But whether war comes or whether the need lies only in the difficult problems that are offering themselves to the housekeeper of today, the members of the Association should be equally willing to serve.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

A Course in Household Arts. By LORETTO BASIL DUFF. Boston: Whitcomb and Barrows, 1916, pp. 301. \$1.10. By mail of the Journal, \$1.21.

The difficult problem of presenting a complicated subject to the youthful mind is found in writing a treatise on Household Science for the elementary grades, since the life of the child has no training or experience on which to build for much of the scientific side of the subject, while the practical side is rich in opportunity.

This course in household arts handles the subject in an easy and simple style, suitable for students in the elementary grades, and is unusually good in helpful economic suggestions. The experiments are well chosen, and adapted to the ordinary equipment of the school. The chapter on meats is exceptionally well expressed and illustrated. That on "Food and the Human Body," while founded on excellent authorities, is probably beyond the comprehension of any student in the grammar grades. Batters, doughs, and the connected subject of leavens, might be treated more extensively with profit. On fruits, the author deals only with the composition, classification, dietetic value, and the cooking of dried and fresh fruits. The canning and preserving of fruits, with its opportunity for the discussion of bacteria and molds in this connection, finds no consideration in this otherwise very excellent book.

EUPHEMIA E. EVOY.

From House to House. A Book of Odd Recipes from Many Homes. By A. N. FURGERSON and CONSTANCE JOHNSON. New York: E. P. Dutton and Company, 1916, pp. 291. \$1.50. By mail of the Journal, \$1.64.

This book is a compilation of recipes representing the famed dishes of various housekeepers. The collection of recipes was made by a trained nurse as she went from patient to patient. The purpose of the book as stated by the authors, is to serve the housewife as a "refuge from the commonplace." Hence, a different organization from the ordinary cook book has been attempted.

The plan of the book is that of an encyclopaedia, subjects being listed alphabetically so as to suggest a variety of ways of using one food material. Thus, under "apples" the reader is referred to other portions of the book where apples are used in the preparation of a dish. Such an arrangement, were it combined with a page index, might be of advantage but in this case makes it very difficult to turn quickly to a desired recipe. This difficulty is aggravated because the alphabetical arrangement is not always followed. For example, "calf's head soup" is placed after "cheese" dishes.

The subject-matter of the book lays itself open to some adverse criticism in that many of the recipes though undoubtedly successful in the hands of the original owners, have not been carefully enough edited to secure good results in untried hands. For instance, the following quotations are typical

of the kind of statement frequently found which makes one hesitate to urge its use by inexperienced housekeepers.

"Boiled Chocolate Filling: One square chocolate, as much milk as you need, sugar to taste, 1 teaspoon cornstarch."

"Baked Apples: Bake in a pan with one banana."

The book fulfills its purpose of helping the housekeeper to avoid monotony by suggesting good variety in some of the types of dishes most commonly used. The salad section is particularly good in this respect, variety being gained without the expense of much labor, but its use will necessarily be limited to those whose judgment concerning cooking is already trained.

MILDRED WEIGLEY.

Constructive Sewing. Book I. By MARY E. FULLER. Indianapolis, Ind.: Industrial Book and Equipment Company, 1916, pp. 91. \$0.60. By mail of the Journal, \$0.65.

Constructive Sewing is one of three books in the Sewing Series by Mary E. Fuller, Instructor of Sewing, Lucy Flower Technical High School, Chicago. It stands out as unique in this field of text book material. It not only presents the subject matter in a simple and logical way, but through the use of good illustrations, questions, and methods suggested, makes itself of particular value. The Students Record is especially helpful, as it provides for "things to do," and suggests that the student keep the record. This record helps to secure application of the subject matter learned at school, and is an aid in carrying it into the home.

Another valuable feature of the book is that it presents more than the technical processes of sewing. The subject matter of textiles is taught with the processes and in relation to the project being made by the pupil.

The subject matter of Book I is such as might be presented in the seventh and eighth grades of the elementary school.

ANNA M. COOLEY.

The Baby—Before and after Arrival. By JOSEPH BROWN COOKE, M.D. Philadelphia: J. B. Lippincott Co., 1916, pp. 239. \$1.00. By mail of the Journal, \$1.10.

This new book on the mother and child emphasizes the effect prenatal hygiene and preparedness, as well as skilled assistance at the time of labor, has on the safety of childbirth. In many ways it is an admirable presentation. It gives a very complete account of the essential medical features of pregnancy, labor and after care, written in a not too technical language for the average intelligent woman to understand.

We can heartily endorse much that we find here on the "watchful waiting" necessary to make maternity safe. However, in the chapters on childbed fever and labor, we feel that the approach is too scientific for the laity and that the average mother would possibly become unnecessarily alarmed from this method of presentation. These subjects are handled less bluntly and quite adequately in Slemons' *The Prospective Mother*, Sadler's *Mother and Her Child*, or Davis' *Mother and Child*, so that we cannot feel that Dr. Cooke has replaced or exceeded the value of these three books as manuals for maternity.

In giving the dangers to be considered in every maternity case, we are surprised not to find miscarriage included under this heading or thoroughly discussed anywhere else in the book. We take issue, as usual, at an infant feeding schedule which advocates two or two and one half hour feedings even up to four months. It is a surprise to find a man of Dr. Cooke's soundness so far behind the views of our best pediatricists or obstetricians on the value of the long feeding interval both to the mother and the child.

Leaving out these minor points, it is encouraging to find another straightforward, thoroughly scientific popular book on the subject of childbearing, and to realize that maternity is beginning to be considered an important topic and the health and safety of the expectant mother a vital condition.

DOROTHY REED MENDENHALL, M.D.

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NEWS FROM THE FIELD

The National Housing Association. At the request of the Council, the American Home Economics Association has, whenever possible, sent a representative to the meetings of such associations as deal more or less directly with matters relating to the home and its interests. During the year delegates have been appointed for the National Housing Association, Providence, R. I., October 9 to 11, 1916; for the Infant Mortality Association, Milwaukee, October 19 to 21, and for the Public Health Association, Cincinnati, October 24 to 27.

Through a necessary change of plans the delegate to the National Housing Association was not able to be present, but a report of the meeting was sent by Miss Adelaide M. Abell, of the Providence Technical High School.

The conference held a three days' session at the Narragansett Hotel. An address of welcome by Mayor Gainer and the report of the year's progress opened the meeting.

An address on How to Get Garden Suburbs in 'America emphasized the importance of the proper housing of the working man, especially the low waged worker. Mr. Williams said that a solution of this problem would do more than any other agency towards the eliminating of the drink evil and pauperism, and of criminality. He advocated cottages with gardens in the country within a five-cent fare of the place of employment.

Housing and Health was discussed under the topics, The Government and Housing, The City and Housing. Dr. Fronczak, Health Commissioner of Buffalo, said that to correct the abuses of bad housing it would be necessary to create a healthy public sentiment; obtain the coöperation of various organizations designed for welfare work; utilize a complete survey of conditions according to districts; employ an adequate

force of inspectors, preferably those with some social experience; pass municipal ordinances with specific requirements, and with suitable penalties for violations; post rules and regulations in each establishment for the education and guidance of occupants; and supervise and control by the permit and license system all tenements, rooming and lodging houses, and hotels.

Section meetings were held on Construction with such topics as How to Get Low Cost Houses, What Types of Houses to Build, on Housing and Health, with a consideration of Housing and Disease, and the Work of the Local Health Department; on Management, and the Organization of Housing Work; and on Educational Work with Special Reference to Educating the Tenant.

One session was devoted to the apartment house under the topics The Menace of the Three Decker, and Shall we Encourage or Discourage the Apartment House?, and one evening session was devoted to Industrial Housing, with John Mitchell, Industrial Commissioner of New York, as the speaker.

The American Association for Study and Prevention of Infant Mortality.

At the Seventh Annual Meeting of this Society the Secretary of the American Home Economics Association served as delegate. A large number of Home Economics workers were in attendance and several presented papers.

Some of the sessions were medical in character, especially that on Obstetrics and on Measles, the latter held in connection with the Milwaukee County Medical Society.

The Session on Propaganda was emphasized by the exhibit that covered the walls of the main audience room, an exhibit showing Infant Mortality work in many states and cities.

The meeting of the department of Gov-

ernmental Activities and Vital and Social Statistics was devoted wholly to the discussion of Infantile Paralysis, showing methods for its control and the effectiveness of measures taken to prevent its spread.

Nearly every session of the meeting dealt directly with some phase of the rural problem, but this was especially true of the section that touched most closely Home Economics work, Public School Education for the Prevention of Infant Mortality. Miss Marlatt, of Wisconsin, presided. The discussion dealt with the relation of college and extension courses to this work rather than with the public school, in the ordinary sense of that term.

Dr. Mendenhall, of the Extension Department of the University of Wisconsin, gave an illuminating sketch of her work among rural women in educating the mother in prenatal care. She made a strong plea for hospital facilities for the country woman in every county.

Miss Amy Daniels discussed the relation of baby clinic work to the class in dietetics and emphasized the work that the properly trained teacher of home economics might do in showing the rural woman proper methods of caring for and feeding the baby. Miss Agnes Boeing told of her few weeks' experience in city hospitals after her course in home economics, that helped in equipping her for such work as Miss Daniels had described.

Dr. Dorothy Reed Mendenhall presided over the last session on Rural Communities, Nursing and Social Work. Miss Elizabeth Kelley, of the University of Wisconsin, presented a paper on Home Problems of the Rural Woman, pleading for more conveniences and aids in the farm home. Dr. Lydia Devillbiss, Division of Child Hygiene, Kansas State Board of Health, spoke on the Problems of the Rural Mother in Infant Feeding, and Miss Harriet L. Butler discussed Rural Nursing.

Round table conferences and business meetings completed the program.

The Annual Conference of the State Agents in Home Demonstration Work in the South, and the members of the States Relations Service who are connected with the administration of the Smith-Lever Extension Funds, was held at the Department of Agriculture in Washington, December 11 to 16.

At this conference reports of work done during the past year under the Smith-Lever Extension Act were made and plans for the extension and development of the work discussed.

In the fifteen Southern states there are now 463 state, district, and county agents in charge of the extension work for farm women. This is an increase of 113 over last year.

The total funds for coöperative extension work among farm women for the entire United States for the fiscal year of 1916-1917 is \$755,990.00. Of this amount \$532,962.00 is being spent in the fifteen Southern states and represents the federal, state, and county funds appropriated for Home Demonstration Work. This is an increase of \$165,464.00 over the total available funds for extension work for women of the previous year in the South.

Under the supervision of the state and county agents, aided by home economics specialists in the Extension Divisions of the various State Colleges of Agriculture in the South, about 50,000 girls and 25,000 women were enrolled to carry on demonstrations in their homes. There were reported by November 1, 1916, more than one thousand Home Demonstration Clubs.

These Home Demonstration Clubs are organizations of women in rural sections whose members have conducted demonstrations in productive industries, in better cooking and utilization of farm food products, and in solving problems of household management and sanitation. Some notable social and community developments have also been reported. In stimulating productive activities such as poultry raising, farm butter making, coöperative marketing of eggs and butter, small fruit and winter vegetable

gardening and canning, the county agents have had the assistance of extension specialists. The making and purchasing of labor saving equipment under the direction of county agents has contributed appreciably to more efficient housekeeping. Incomplete reports show that there have been made and used during the past year 3155 fireless cookers, 2035 iceless refrigerators, 262 wheel trays, 4380 fly traps, and hundreds of other miscellaneous devices. The installing of more than 300 home water systems in country homes has been reported.

Home Economics Teacher for China. The International Committee on Home Economics Teaching has received a request from the Secretary of the Board of Foreign Missions of the Methodist Episcopal Church South, stating that there is an opportunity for a domestic science teacher, who will take a position in a school in China. Persons who might be interested in such an opportunity now or sometime in the future are asked to communicate with the Chairman of the Committee, Dr. Benjamin R. Andrews, Teachers College, New York City, or with Mr. F. P. Turner, Secretary of the Student Volunteer Movement for Foreign Missions, 25 Madison Avenue, New York City.

RICHARDS DAY CELEBRATIONS

The Normal School at Cheney, Wash., celebrated Richards Day for the first time, early in December. No attempt was made to raise money, as there are too many calls for that right now.

A talk was given by one of the Home Economics students on the life of Mrs. Richards and the scope of the Home Economics work. This was followed by an exhibition of sewing, both old and new, textiles, standard portions of food, and some of the new mechanical devices for lightening housework. It was surprising that so many beautiful old things could be found in this new country.

The last two hours of the exhibition tea and wafers were served by the Domestic Science Department. The whole affair was

considered a success educationally as well as socially, and it is hoped something big can be done next year.

The Agricultural and Mechanical College at Stillwater, Oklahoma, gave a Richards program and an open meeting to which the young women of the College were invited. The stage was arranged to represent as nearly as possible the living room in Mrs. Richards' Massachusetts home. Each girl who took part in the program was dressed in the style corresponding to the period of time represented. These young women told about the duties and pleasures of Ellen Richards. The various periods of her life represented were childhood, girlhood, college days, work in the laboratory, home life, public life, and later years. Suggestions for the costuming of the various girls were taken from the photographs given in her biography. In the last scene, "Later Years," Mrs. Richards was represented as sitting at her desk in her home and having an interview with two modern college girls, telling them of her work in home economics, and the future that she foresaw for work of this type.

At the close of the program, the club voted to send \$5 to the Memorial Fund as its contribution for this year. As this is the first year of the Home Economics Club in this College, the girls are very enthusiastic and a number of successful meetings have been held.

The Tempe, Arizona, Normal School gave a tea and candy sale on Richards Day which netted \$17 for the Fund.

Prior to the sale a student addressed the school at assembly, giving the students and faculty some idea of what Mrs. Richards stood for and accomplished. Another student told of the Fund and announced the sale to raise money for it.

The Domestic Science Girls of Coats High School, Coats, Kansas, celebrated Home Economics Day this year for the first time.

The program was given in the high school auditorium, and in the school gymnasium were several booths displaying foods good for the school lunch box, a cereal exhibit, old-fashioned cooking utensils, new cooking utensils, old and new fancy work, home-made candy, gluten flour exhibit.

At the conclusion of the program and exhibits, the domestic science girls served hot chocolate, pimento cheese sandwiches, olives, toasted marshmallow cookies, and mints.

The Home Economics Department of the University of South Dakota under the direction of Miss Eva R. Robinson organized a Home Economics Association on December 4. The following officers were elected: President, Genevieve Kelley; Vice-President Mae Wilson; Secretary, Alice Walker; Treasurer, Mary Clark. The meetings are to be held the first Friday of every month.

Home Economics Day was observed on December 9 instead of December 3. An exhibit was held in the Home Economics Department. The Home Economics Association served coffee, ice cream, and cakes. The proceeds (\$10) were sent to the Richards Memorial Fund.

The Institution Section of the American Home Economics Association expects to hold its meeting this year at Lake Placid Club, Essex County, New York, June 16-19. The program will be arranged, as it has been in former years, with special reference to those who are doing work in connection with college dormitories, the Young Women's Christian Association, women's clubs; to dietitians in hospitals, sanitarium and other institutions; to managers of school lunch rooms, and cafeterias.

The Committee is hoping to set aside one day—perhaps Saturday, June 16—for some special talks by men interested in large problems like that of the commercial hotel and large club. With the great attention being given today to the housekeeping of the modern hotel, there will undoubtedly be much of the greatest interest to all members of the section.

As the labor problem has been a most difficult one for every institution manager to cope with this past year, it is hoped to have some experts from the department at Washington and at Albany discuss some phases of the labor problem today, and a marked effort will be made to have several who have been working on labor problems this year enter into the discussion.

Requests have come from many of the members for discussions on large quantity equipment. The Committee is in correspondence with several who are hoping to be at the meeting to present for discussion some of the essential points of different types and kinds of institution equipment.

Under the chairmanship of Miss Lulu Graves, Lakeside Hospital, Cleveland, problems of special interest to dietitians are being prepared. Discussion will also be held on the subject of dietitian service today in connection with hospital units of the Red Cross.

Inquiries regarding the meeting or any suggestions regarding topics or discussions may be sent to the Secretary, Miss Katharine Fisher, MacDonald College, Quebec, Canada, or to the Chairman, Miss Emma H. Gunther, Teachers College, Columbia University.

Brief Notes. Mrs. Calvin and Miss Lyford of the United States Bureau of Education have undertaken a correspondence with five thousand teachers of Home Economics who are connected with the smaller high schools of the country. They are planning for an exchange among these teachers of the best methods and materials which have been used by any of them.

Miss Winifred S. Gibbs has resigned from the Association for Improving the Condition of the Poor after ten years of most effective service, retaining only an informal connection, through her students at Teachers College who continue to do field work for the office.

Miss Alberta Borthwick, whose paper appears this month under Students' Contributions, is now matron in the dormitory of the State College at Fargo, N. D.

THE
Journal of Home Economics

For those interested in Homemaking, Institution Management,
and Educational Work in Home Economics

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PRACTICE HOUSES FOR STUDENTS IN HOME ECONOMICS¹

ISABEL ELY LORD

Director, School of Household Science and Arts, Pratt Institute

Among those engaged in Home Economics education the term "Practice House" has become so familiar that we take it for granted that there are many of these houses scattered through the country, especially as part of schools training teachers of home economics. It is of this last group that certain definite and detailed questions as to the houses have been asked, and the results are presented here.

But a brief summary of the subject as a whole can hardly be omitted. The practice house by its name implies an attempt to reproduce home conditions (so far as possible) for students of homemaking. It is obvious to anyone that home conditions cannot be adequately reproduced in a school. The family group has a unity, a purpose, and a meaning that must be lacking in any student group. Even the expenditure of a "normal" family can be only planned, not made, by the students. So far as the food problem goes, there may be actual planning, buying, preparation, and serving, but even here it is quite impossible to present the problems arising from individual likes and dislikes, from unexpected family happenings, from sickness, from financial crises. The physical care of the house can be excellent student practice, but it is, and in a school must be, a more carefully ordered, less interrupted process than in the ordinary house.

The very number of students to be trained usually means that a number are working at one time that would be absurd in a house of moderate size, such as would be occupied by the family whose needs are being studied. For example, our little eight room practice house at Pratt Institute,

¹ Presented at the Ninth Annual Meeting of the American Home Economics Association, Ithaca, N. Y., 1916.

whose sister houses have families of four or five with one maid, if any, has at one time five house workers, besides the student hostess. Such groupings are necessary to get our results, but would be ridiculous if we meant them to illustrate the life of the ordinary family.

All this is stated, not in disparagement of the practice house idea, but as a warning that it is useless to strain too hard to make the work "exactly like regular housekeeping." The effort should be rather to make it typical, to offer such practice as can naturally be given to advantage to the student and will prepare her effectively for the home pure and simple. After all, if the school reproduced exactly either the shop or the home, it would cease to be a school. It does not exist to give experience, in any full sense of the term, but to *prepare* for experience.

This preparation for housekeeping experience was until a few years ago given entirely in the laboratory. The jump from laboratory work in cookery to cooking in the home was a big one, and there were many falls and bruises in the taking of it. For children it often proved impossible, and it was here that the laboratory work was first supplemented by work in rooms fitted up like a home—though too often like such an abstract home that the result lacked warmth and attraction. The unfortunate term "model apartment" was often applied to these rooms, which were part of the school building. About the same time (1912) the "housekeeping centers" were started. These were a distinct advance over the school apartments because they gained reality by being in a tenement building or a small, separate house. In some places the name "model flat" was used, but that is rapidly being discarded. It is dangerous to set up anything as "model" and the term invites criticism of all kinds, while the "housekeeping center" and the "practice house" disarm criticism by their modesty of approach.

Many elementary and secondary schools all over the country are equipped with this aid to their home economics work, and there are many more supported by special agencies, such as the Association of Housekeeping Centers in New York, churches, settlements, and other organizations for social betterment.

A very interesting recent development of the idea is in the private boarding schools for girls. Several of the best of these, in most cases those whose students will probably have large incomes to spend, have begun or are planning to begin, courses in homemaking given in a practice house. It is significant that the greatest difficulty found by those who wish to begin this work is in finding the right woman to have charge

of it—one of adequate training and fine personality, with vision to see the possibilities of this opportunity for training those whose problem is not how to make the income meet necessary expenses but how to spend wisely the large surplus left after the necessities have been provided. This group has a great part in setting the standard of living for those who have smaller incomes, and very little has thus far been given them.

As it has been impossible to cover the whole field in detail in a single contribution, the following limitations have been set for this paper:

1. The data are confined to normal schools, colleges, and universities—our sources of teachers of home economics.

2. Only *separate houses* are described. The apartment is in some places used like the practice house, but in others is used quite differently. No apartments are included here.

In May, 1915, a questionnaire regarding costumes in cookery was sent to the 217 normal schools and colleges having home economics courses, as listed by the JOURNAL OF HOME ECONOMICS in June, 1911. A letter accompanying the questionnaire asked if a practice house was part of the equipment.

The reply was "Yes" from nine, and later six other names were added. A dozen more said that they hoped soon to add a practice house to their equipment. A list of questions was sent to the fifteen already possessing houses, and the data below are compiled from the answers. The colleges and schools are as follows: Berea College, College of Industrial Arts (Denton, Texas), Cornell University, Joseph K. Brick School, Mississippi State College for Women, Oxford College for Women, Pratt Institute, State Normal School (Athens, Georgia), Stevens Point Normal School, Stout Institute, University of Nebraska, University of Minnesota, University of Washington, West Virginia University, Winthrop Normal and Industrial College. As it is not American, the Girls Hostel of the Technical College Training School at Christ Church, New Zealand, is not included here, but it should not be forgotten that our wide-awake neighbor over the seas has at least one real practice house. It should be noted that the University of Illinois was—if available data are correct—the first to open a practice house (in 1908). As this house has now been given up in exchange for an apartment, no description of the work is included here.

The names of the houses have a certain interest. Four are called Practice House (one with the alternative title of Domestic Science Cottage), two the Home Economics Practice Cottage, one the Household

Management Practice Cottage, one Kanahoah, the House of Friends (Mississippi), one the Home Economics Lodge, one the Home Management House, one the Demonstration Cottage, one the Demonstration Home, one the Model Cottage, one the Model Home, one the John Francis Sims Cottage, and one has the alternate name The Penn Cottage.

The houses are owned by the school or college, with the exception of those at Cornell, Pratt Institute, and the University of Minnesota, and West Virginia University. These are rented. The value of the house is given for the following schools: Berea, \$500 (a rent of \$12 a month is charged, I suppose to the Home Economics department, since Berea owns the house); College of Industrial Arts, \$1800; Brick, \$5000; Athens, \$800; Stout, \$7000; Stevens Point, \$7500; University of Nebraska, \$2000; University of Washington, \$3000. The rented houses are as follows: Cornell, value \$3000, rent \$150; Minnesota, value, \$12,000, rent \$1100; Pratt, value \$5500, rent \$570 (including heat and light); West Virginia University, rent \$216. All except Pratt have detached or semi-detached houses.

These variations in value are partly because of country or city location, but hardly comparable, as the size and use of the houses differ much.

In only four cases, Berea, Denton, Mississippi, and Stevens Point, were the houses planned for the purpose for which they are now used. Undoubtedly the other schools have made changes in the houses, but they have been in the position of the majority of families, who must accept what someone else planned and built. In the furnishing one might expect more on the part of the school, but in two cases the house was a former student dormitory, not refurnished (Oxford); in one furnishings from a home economics building were used, supplemented by \$124 worth of furniture bought out of the profits of renting rooms (Nebraska); and in one the house is rented furnished (Minnesota). In only two cases (Denton \$800 and West Virginia \$300) was a definite sum assigned for furnishing; and only two more give the cost—Cornell, whose inventory at the end of the first year was \$785.07, and Pratt, where the furnishings cost \$1373.33, exclusive of the dining room furniture, silver, china, and kitchen utensils, which were transferred from a former apartment in the school.

In five (Cornell, Denton, Mississippi, and for the new furniture, Nebraska and West Virginia), students had the chief part in the original furnishing. Generally it seems to have been held better to have the

furnishings represent the school ideas and ideals rather than those of a single group of students. The houses are apparently generally used by house furnishing classes for purposes of observation, but refurnishing is, of course, not feasible. Even if financially possible, it would be poor home economics. At Pratt all the house furnishing classes go over the house in detail, discussing the reasons for and against colors, materials, types of furniture.

Eight only have available for all visitors inventories giving cost and source of each article—Cornell, Joseph K. Brick, Nebraska, Pratt, Stevens Point, Stout, Washington, West Virginia. Athens is to have one. One (Oxford) has an inventory with costs, but not source. The others have not available inventories. From our experience at Pratt the lack of an inventory seems a serious one. Ours is used constantly by students, and it is a rare visitor who does not take away a note of some item of furniture or equipment, with cost and source, so that she can duplicate it with little trouble. It was in order to be helpful in this way that in furnishing the house we resisted the temptation to "pick up" nice old furniture, which would be easy to us with our knowledge and opportunities, but not of definite help to the ordinary buyer. We therefore chose a good reproduction of a Sheraton table, that anyone can get, though we could undoubtedly have found an old mahogany table at the same price, and would have preferred it if we had considered only our own point of view.

The equipment with labor saving devices is in each house adapted to that type of house and the region. No attempt is made to have a complete set of labor saving devices—if there is such a thing—but only those that the family likely to live in that house might reasonably have. This is, of course, as it should be.

The use of the house differs so much that comparisons can hardly be made. For outside care the students are in no case responsible. For the inside work the arrangements are as shown on the following page.

In eleven cases the students carry their regular work while they are doing Practice House work; in one (Minnesota) they are allowed 3 credits for the nine weeks they are there; in one (Mississippi) they are allowed 1 credit for the six weeks they are in the house; and at West Virginia 2 hours credit for the semester; and in one (Pratt) they concentrate on this problem, carrying during the one week of practice house work no other work except practice teaching.

4 students for 3 months, 2 teachers.....	Berea
3 months.....	Brick
4 students for 2 weeks, 1 teacher.....	Denton
2 weeks each (future plan).....	Cornell
4 students for 4 weeks.....	Oxford
6 students for 1 week.....	Pratt
10 students for 6 weeks.....	Mississippi
1 month.....	Athens
2 weeks.....	Stout
4 students for 1 month.....	Stevens Point
9 students for 9 weeks (11 boarders).....	Minnesota
1 week.....	Nebraska
2 or 3 weeks.....	Washington
1 semester.....	West Virginia
8 students for 8 days, later 4 days more.....	Winthrop

Whether the students shall carry their regular work or not depends partly on the way in which the experience is regarded. If it is only supplementary work to that given in the regular laboratories, it may be carried on parallel with other work, but even in that case, it would seem that enough laboratory work in these subjects should be dropped so that this work will not be an addition to the regular—and surely everywhere full—schedule of work. The difficulty, of course, lies in the making up of work. As only a small proportion of the class can be doing the practice house work at any one time, class work must go on as usual, and students excused from it must make up the work in order to build sure foundations for the future. There is no doubt that this is hard, but it seems to us harder to have the student trying to do her regular work and at the same time pass the test of the Practice House.

In that expression I have revealed that we do not look on the work as supplementary to the regular class work in cookery, marketing, serving, care of the house, laundry work, and household administration, but rather as an examination in the students' ability to make a synthesis of all these in actual housekeeping. In our opinion they should give their whole attention to this important problem. It is easy to arrange for the practice teaching by including in the group students whose teaching comes on different days. As the students shift positions and as the laundress has comparatively light work (having only a share of the house linen to wash and iron), the student who has practice teaching on a given day is made laundress.

Full details of the conditions and requirements of work are available for only two of the houses—Nebraska and Pratt. The Nebraska data are in the form of sheets given the students. These sheets give

definite directions for each task. At Pratt a sheet of general directions is given the students, but the working out of details is part of the students' own problem. Some time before the work begins, the instructor in charge of the house meets all the students and explains the general plan of work. She asks the students to make their own groups of six—having in mind the time of practice teaching—and to choose their week. They give her the list when it is ready. Six students go into the house on Monday morning after breakfast and leave late Saturday afternoon. They each take in turn the position of hostess, cook, kitchen maid, waitress, laundress, and chambermaid. The instructor in charge of the house eats every meal with the students, and at one meal—usually luncheon—all the students sit down with her, and give their solution of attractive family service where there is no maid. At the other meals there is formal service and only the hostess sits at table, with the instructor and two other guests. The invitations are part of the regular work, as will be seen from the instructions to students. It is probable that next year we shall have formal service and outside guests at dinner only. We should prefer to do without formal service at any meal, but the students need more practice in this than they can get in the school.

The group, then, prepares 16 meals, 5 for seven people and 11 for nine people—144 single meals. They are given at the beginning of the week \$19 in cash, and from this pay all food supplies, ice, kitchen cleaning materials, and candles and flowers for the dining table. The per capita per meal is thus $13\frac{1}{4}$ cents. They must serve three courses at breakfast, two at luncheon, and four at dinner. They must make all bread, cake, and pastry used, and must serve once a week certain dishes, a frozen dessert, for example. The group plans together for expenditures, so that left-overs may be used. They thriftily sell to the next group anything that is left. Spices and seasonings are furnished without charge, as they cost little per week, and it would cost much in time to account for them. Sugar and flour are bought in quantity, but each group pays for what it uses. They have a chance to buy at cost the preserves and pickles they have put up in class. Other supplies they buy at the local dealers, and as each group supplies only its own needs, they can not buy to the best advantage. The complication of accounting that would result from reselling other supplies than flour and sugar is one argument against it, but a stronger one is that each student needs actual experience in marketing.

The ingenuity of the students in making both ends meet often surprises even experienced instructors. They serve very attractive meals, and no group has ever exceeded the weekly allowance. Some groups have 25 per cent left, but most of them have no more than 2 per cent. They, of course, present itemized accounts.

In addition to the regular meals the group serves tea on Friday to all guests—and often there is a score of them. Friday is the only day we allow visitors at the house while the groups are at work, as it is too great an interruption to have them come through the week. When this visiting day was first planned it did not occur to me to speak of tea, but the student group in the house asked if they might serve it. They said it seemed so inhospitable not to give guests something. Of course I was pleased at this evidence of the spirit of hospitality, and I asked how much they would like me to add to their allowance. "Oh, that's all right," they said. "We don't want any more money. We'll do it out of what we have." And for the first few years whenever I asked an extra guest, as I frequently do, especially when the guest is from the home economics world, I always offered to add to the allowance, and my offer was always refused. The food budget therefore resembles that of the usual family, providing for guests without increase in cost.

The mimeographed sheet given each student going to the house is included here because it may be of interest to other schools to see what we have found it worth while to tell the students. Some of the details will doubtless be mirth-provoking as one reads it first, but every one has been added from experience—an experience now lasting five years.

PRATT INSTITUTE, SCHOOL OF HOUSEHOLD SCIENCE AND ARTS

To students appointed to practical work in the Practice House:

The Practice House exists to enable the full-time students in household science to carry out the theories, to act on the principles, and to uphold the ideals of the School. The students there are at the same time hostesses and guests, and should exercise the courtesy required in both these relations.

The house as a whole should be the care and pride of every student. It is hardly possible for students to be too punctilious in their observance of every rule or tradition of social life.

Students wear the cookery costume except when on duty as hostess. The hostess should wear any simple gown for breakfast or luncheon, but should always dress for dinner. This does not necessarily mean the wearing of

conventional evening dress, but only that a distinct difference should be made. A simple white dress is quite suitable.

Students are asked to bring their own bath-towels, soap (in a case) and wash cloths. They need not bring other towels—whether for personal or kitchen use—oven cloths, holders, whisk brooms, or hand mirrors.

Students are requested to exercise great care as to the order of their rooms. Clothing, shoes, and the like, must not be left lying about or in sight. A sense of orderliness should be the first impression of the house.

Each bathroom has a cabinet with four divisions, one for the small toilet things of each of the four persons using it. Towel racks are provided in the gray room, and near the entrance of the top bathroom. No personal toilet articles or towels are to be left in the bathrooms. Students working on the first floor are to use the toilet in the basement, *not* the one on the second floor.

Overshoes may be kept in the closet under the stairs. The umbrella stand is to be used only for wet umbrellas, dry ones being kept in closets.

Window shades are to be kept at the top of the lower sash except on very dark days, when they may be put up all the way. They are to be drawn in in the evening. Folding doors should always be either entirely open or entirely closed. The position of the furniture in each room should be carefully studied, and no changes made. Dressing tables and chiffoniers should be kept in perfect order. A place for matches is provided in each room, and they should never be placed elsewhere.

Cards are not to be left on the card plate, but given to the instructor in charge.

In showing people the house, show (1) first floor; (2) second floor front; (3) top room; (4) brown room; (5) gray room.

All notes of invitations for breakfast, luncheon, or dinner, are to be sent one week in advance. These are to be written in proper form on note paper of correct size and submitted to the instructor in charge before being mailed. Each hostess will state her home address on her invitations in order that the guest may reply directly to her.

September, 1915.

The details of the Pratt work are given here because the writer knows them well enough to make accurate statements. It would be most interesting to have a series of similar statements from the other schools.

But to return for a moment to the cost of food supplies. For Pratt this is as has been stated, $13\frac{1}{4}$ cents per meal, or $39\frac{3}{4}$ per day. The other figures available give a daily per capita as follows: Berea, $23\frac{2}{7}$ cents; Denton, 30; Athens, 30; Oxford, $28\frac{4}{7}$; Minnesota, 30 to 32. In other cases students pay regular board, but the amount for food is not stated.

The whole expense to the school or college of a practice house is a very important question. Where students live in the house for somewhat long periods, or where they go there from the college dormitory, the students pay regular board, but where the test is a short one and does not relieve the student of living expense to any considerable extent (as at Pratt), the school must bear it all. Figures are not available for other schools, and they are not complete for Pratt, because of the exclusion from the inventory of the dining room furniture, the silver, china, and kitchen utensils, as mentioned before. Also the exact figures are not available for the cost of new hardwood floors and other changes made at the time the house was opened. An estimate of this is, however, given. It should be noted that when there is no group in the house, several students are given rooms there, in return for which they keep the house clean.

Cost of Pratt Institute Practice House

4 per cent interest on cost of furnishing.....	\$54.92
5 per cent depreciation of furnishing.....	68.65
NOTE.—Replacement of small furnishings included in renewals.	
Renewals.....	50.00
Rent.....	570.00
Light, fuel.....	40.00
Telephone.....	36.00
Student food.....	228.00
Extra service (opening and closing).....	8.00
	<hr/>
	\$1055.57
Rent to instructors.....	350.00
	<hr/>
Net cost.....	\$705.57

One point about the practice house work that should not be forgotten is the opportunity it gives for the teaching and practice of what our grandmothers called simply "manners." I am often conscious that we fail in our responsibility to our students because we do not give them definite instruction as to the accepted forms of courtesy, and that we criticize them sometimes for rudeness when the failure to meet social requirements is only a matter of ignorance. We ought to give more attention to this, and the practice house gives an excellent opportunity for observing our success.

It may seem legitimate to add here what we have planned at Pratt

Institute to give the experience in housekeeping, in addition to this test of the Practice House. We value the latter highly, but we realize that it can not meet the need for constant practice. For some years we have given returning students summer work in cookery, in the hope that they would gain in confidence and facility. This work was in special problems, such as bread-making, gelatine mixtures, and the like. It produced results, but they were naturally limited to facility and confidence in only a few processes. This year we have changed entirely to the plan for experience, and require of each returning student that she plan, purchase, prepare and serve three meals a day for fourteen consecutive days for a family of not less than four. This experience will come before that of the Practice House, and we hope that incidently it will make the latter work much easier. The Practice House work is hard now because it is a sort of examination, and the students are afraid of making mistakes. The confidence they gain from the summer work should help them here. They, of course, keep careful accounts for the summer work, and report on a number of points.

But to return to the Practice House. There is enthusiastic unanimity—or unanimous enthusiasm, as you like—regarding it by those who have had one as part of their equipment. As one of the staff at the University of Nebraska says: "A statement of our opinion of the practice cottage idea would read like a testimonial in a vacuum cleaner advertisement—"We have used one for nine months and can say that we would never be without one again."

There is a home feeling for such a house among the students who have lived there. Our Practice House has had so many gifts from student groups and alumnae—a beautiful bedspread of Italian cutwork, filet, and embroidery, Oriental rugs, a beautiful Japanese print, a silver platter, silver tray, and other articles that we always call "wedding presents," that I have begun to explain to students and alumnae that we must not have many more, or we shall be getting beyond the family who is supposed to live in such a home. Every student in the school—though her work may be as remote from housekeeping as trade dress-making—is each year invited to the house to tea. The junior household science students go over there for their first experience in serving afternoon tea. Once a year the neighbors are invited in for the hospitable cup, and each member of our school faculty dines or lunches there every year.

This description of the Pratt Practice House is doubtless true, in everything except detail, of all the other houses. They may be for a time a serious matter to the student undergoing the test, but the abiding memory is one of an approach to the easy intimacy of family life, and the aroma of the gracious spirit of hospitality.

EQUIPPING A DIET KITCHEN

RUTH McNARY SMITH

Formerly Dietitian at Fairmont Hospital, San Francisco

It is impossible to consider an institutional kitchen and its equipment separately. Not only must every article be purchased for a definite purpose, but for a definite place as well. In the case of a hospital, the equipment purchased will depend largely upon whether there is one central diet kitchen, or a smaller kitchen on each floor, to which the cooked food is sent, and there placed upon trays. The size of the institution must also be considered. The type and capacity of articles of equipment must be suitable to the maximum quantity of food required. The diet kitchen referred to in this paper was designed to serve about seventy-five patients. All vegetables were prepared for cooking and most of the meat was cooked in the larger kitchen of the hospital, and then sent by dumb waiter to the diet kitchen. Aside from this, all the food for the trays was prepared and served in the small kitchen, by four nurses and three tray-boys.

It is no longer considered desirable to devote a large space of indefinite proportions to the kitchen of a hospital. We have seen the possibilities of a ship's galley, or the kitchen of a dining car, and might well adopt such compactness and efficiency of arrangement. It is not plenty of room that is required so much as room so well planned that there is neither uncomfortable crowding nor waste space to traverse. Much depends on this—the number of employees required, the time necessary to prepare and serve a meal, and the fatigue which results, legitimate or otherwise. In the diet kitchen referred to, such was the compactness of the arrangement that it was possible to serve seventy trays, consisting of a variety of diets, in approximately one-half hour.

The first thing to consider in equipping a diet kitchen, is the selection of the larger articles such as the steam table, stove, sterilizer, and refrigerator. These should be of such excellent material and construction that ten years service will only occasion smaller repairs or replacement.

Steam table. The steam table selected for this kitchen had two meat pans and six food receptacles of heavy pottery. Metal or enamel iron pots are not an economy. The covers were of german silver which looked well but required more care than copper. The lower portion was enclosed for the purpose of heating dishes. A steam table must be steam tight or it is a failure, as the food is likely to be soggy rather than crisp and hot. If it is impossible to use steam from the heating system, a gas table may be substituted.

Stove. A good gas range having six burners, two large ovens, a cake oven with glass door, and a broiler, was entirely adequate, with the addition of two double plates and a single one. The stove had several white enamel surfaces which required frequent cleaning. For this reason a plain steel oven would be preferable, unless there was plenty of service. It is important that the hood should have an outlet pipe, at least one foot in diameter, leading to the roof.

Refrigerator. A central refrigeration plant with pipes leading to an insulated enclosure in the diet kitchen is the ideal. In an institution accommodating less than one hundred patients, it is often necessary to substitute a separate box. If so, the best is an economy. In this case, an excellent refrigerator, covered inside and out with opaque glass was used. It was built into the cupboards, thus increasing its efficiency, and economizing space.

Sterilizer. An ordinary dishwasher is not suitable for a diet kitchen, as there is always the danger of infection, necessitating thorough sterilization of the dishes. A cylindrical receptacle three feet deep and two and one-half feet in diameter, having steam steel coils in the bottom, was selected, and gave good results. Wire dish baskets were used. These were suspended, by means of a heavy steel spring, from a lever attached to an arm projecting from the wall above. By means of this lever the baskets full of dishes could be lowered into the can of boiling water and allowed to remain as long as necessary. The chief advantage of this type of sterilizer is its simplicity, and the ease with which it is kept clean. There are many other good sterilizers on the market, but the matter of simplicity of construction should always be considered.

Tray-rack. A necessity in a diet kitchen is a rack to hold the trays, in order that dishes and food may be placed upon them. This article of furniture requires a good deal of space at best, and so should be planned as economically as possible. For sanitary reasons this rack should be of metal, but it may be constructed of iron piping, enameled white, having shelves made of small wooden rods, one inch in diameter. These fit over the iron pipe at intervals of four or five inches. These rods may easily be removed and washed.

Tray-lift. One of the most difficult problems that the dietitian must deal with, in connection with the food in a hospital, is the matter of keeping it hot until it reaches the patient's room. The food lift should be lined with asbestos and have a metal covering, if possible, and be provided with some means of supplying heat, as hot water, soapstones, or electricity. The heated food truck, while expensive, is of great service in keeping the food hot while it is being distributed to the various rooms and wards.

After these larger articles have been decided upon, and the dimensions taken, the next problem is to fit them into the space in such a way as to secure a proper relation to each other and the room itself. Then cupboards, work tables, and shelves may be planned. Shallow open shelves seem to be best for the storage of food materials and equipment constantly in use. Closed cupboards for kettles are improved by the use of heavy wire shelves such as are seen in refrigerators. Where heavy metal utensils are used, these shelves are more durable and more easily cleaned than wood. It is important that cupboards and shelves be planned for a definite purpose, otherwise many articles will not fit in where it would be most convenient to place them. Movable shelves held by grooves or metal pins are useful, as they may be adjusted to pieces of equipment of various heights.

Finish of woodwork. In this diet kitchen, the walls to a height of four feet and all working surfaces were covered with tile. The plaster was covered with several coats of washable white paint. Care should be taken that this is not put over a varnished surface, or it will soon craze, making cleaning difficult. The woodwork was covered with three coats of white paint and enameled with a glass-like finish that was easily washed, but required frequent attention. A well finished hardwood surface of natural color is certainly more efficient than the white, if not so attractive in appearance. All drawers and shelves were finished alike, inside and out, so that papers were not required.

Floor. Tiled floors while easily cleaned are very tiring. However, cork mats help to overcome this difficulty for workers. Linoleum is best from this standpoint, but if used, the best quality should be selected, carefully laid, and the surface kept well shellacked. A cement-like material, sometimes called German stone, may be substituted for either. Care should be taken to secure a good joining of the sanitary base and the floor covering. This is very difficult to do with linoleum.

Cooking utensils. In deciding upon the purchase of the smaller pieces of equipment it is helpful to list all the cooking processes likely to be carried on in the diet kitchen. Obviously, many things are unnecessary here because certain methods of preparing food are unsuitable for the sick. Examples of this type of equipment might be waffle irons and pie tins. It requires some experience in doing large quantity cooking before one can make a good selection of kettles, pans, and flat utensils.

A large coffee urn, having a pottery inset, is used in all diet kitchens. This should have two parts, one for the boiling water, and the other for the coffee. A very satisfactory and less expensive substitute for the hot water urn was found in a large block-tin pot with a faucet, placed on a single gas plate beside the coffee urn.

For a hospital having one hundred patients or more, it is necessary to install a large copper kettle surrounded by steam coils for the preparation of soups and vegetables. Also a large vegetable steamer is important.

A very useful piece of equipment is a large compartment steamer to be heated by gas. Rice and custard, important articles of food for the sick, can be cooked in this steamer very easily and successfully.

It is a difficult matter to decide upon kettles, as all materials are open to some objection. The ideal cooking utensil is, without doubt, the splendid cast nickel ware, which has been imported from Germany. This has no disadvantages whatever, except cost, which is not prohibitive for a large institution. It neither wears out, chips off, melts, bends, cracks, nor discolors. If this ware can be secured, the problem is solved for at least a generation. Copper, always so widely used by French chefs, has several serious objections: while its initial cost is perhaps two-thirds as much as nickel, it requires constant retinning; neither can it be used for the preparation of acid foods, and it requires a good deal of attention if kept in good condition. Enameled ware of any kind is absolutely impractical, especially in a hospital. At the request of a dealer, one kettle of the best type obtainable was used in this diet kitchen for the purpose of comparison. At the end of one month's

constant use it was so badly chipped as to be scarcely usable. After careful consideration, heavy cast aluminum was purchased, and has given excellent satisfaction. Considering price, durability, lightness, and appearance, aluminum is probably the best material for diet kitchen utensils now obtainable.

The selection of the right number of large, medium, and small utensils requires careful planning. It is necessary to provide eight or ten very small kettles holding one quart, or less, for special orders for one or two patients. Plenty of double boilers of various capacities, one large enough for the required amount of cereal, are doubly useful, as they may be used as separate kettles. Wherever possible, small ear-like handles are preferable to long ones. All lids should have handles.

Labor saving devices. Many labor saving devices are only suitable for small quantity cooking. One genuine saver of time and effort is the large sanitary potato masher and creamer. Nothing presents a more difficult problem than mashing or ricing a large quantity of potatoes. A large egg beater attached to the wall is useful. A small motor is of great service in turning the large ice-cream freezer. One small article found very useful was a revolving grater. It is scarcely necessary to refer to the usefulness of such articles as butter brushes and dish scrapers. It is necessary to have a good strong beef juice extractor, preferably of the type that is screwed down by a large handle.

Flat equipment. An automatic egg boiler is a useful piece of equipment. An inexpensive substitute was found in a French frying kettle and basket in which two dozen eggs could be coddled at one time.

It is well to purchase a good supply of spoons, paring knives, egg-whips, and other small articles easily lost, broken, or worn out. However, only the number necessary for the time being should be distributed, the rest being kept locked in a store room. Unfortunately it is difficult to purchase certain articles, such as bowl strainers, potato ricers, and food turners, which will stand hard wear, so these must be constantly replaced.

Storage of equipment. Most cooks find that it saves time to suspend many of these smaller articles from a rack near the stove or work table. In the diet kitchen referred to in this paper, open shelves at the side of the stove were used as space on which to lay such articles as egg beaters and food turners, while spoons, knives, and forks were kept near by in shallow drawers, divided into compartments. The arrangement of these articles in the most efficient manner is a matter requiring careful study.

A SUGGESTION IN REGARD TO THE PREPARATION
AND USE OF CARAMEL

G. P. PLAISANCE

Chemistry Section, Iowa Agricultural Experiment Station

AND

HELEN MONSCH

Home Economics Department, Iowa State College

It is not the purpose of this article to discourage the use of caramel or to make the public feel that another item of food is being tabooed. However, since considerable attention is being devoted to the furfural content of alcoholic beverages, and since furfural is one of the constituents formed in the dry distillation of sugar,¹ it seems desirable that we know something about this substance.

Furfural, furfurole or furfuraldehyde, $C_4H_3O \cdot CHO$, is an aldehyde formed when pentoses are heated with dilute sulphuric acid or dilute hydrochloric acid. It yields an intense red dye when treated with aniline salts, and hence has always served as a convenient test for pentoses and pentosans. Many reagents have been suggested for estimating furfural both qualitatively and quantitatively. Recently Dox and Plaisance² have shown that thiobarbituric acid condenses readily with furfural in the presence of 12 per cent hydrochloric acid giving a voluminous precipitate, which can be filtered, dried and weighed. Since it is volatile with steam, furfural is given off when a substance containing it is heated with boiling water.

The fact is generally known that most sugars will yield small amounts of furfural or its derivatives, when they are treated with acids under various conditions,³ but it does not seem to be generally known that furfural, possessing toxic properties, is formed also during the carameli-zation of sugar.

Brunton and Tunicliffe⁴ found that when 0.5 gram furfural was fed to rabbits and cats death ensued. Smaller doses caused temporary

¹ V. Lippmann, *Chemie der Zuckerarten*, vol. ii, p. 1206; Sangrorgi, *Giorn. farm. Chim.*, 62, p. 256.

² Arthur W. Dox and G. P. Plaisance. A comparison of barbituric acid, thiobarbituric acid and malonylguanidine as quantitative precipitants for furfural. *Jour. Amer. Chem. Soc.*, 38, (1916) pp. 2154-2156.

³ van Eckenstein and Blanksma, *Ber. d. deutsch. chem. Gesoll.*, 43, p. 2355; *Jour. Chem. Soc.*, 75, 423 and 79, pt. 1, p. 361, and pt. 3, p. 807.

⁴ Brunton and Tunicliffe, *London Lancet*, 2 (1900), p. 1643.

paralysis of the voluntary muscles. One-tenth of a gram caused headache when fed to man.

While makers of caramel have worked on undisturbed, alcoholic beverages have been quite extensively analyzed for furfural, some of them having been found to contain as much as 0.03 gram per liter. That the "after effects" of whiskeys, wines and beers, have been attributed partly to furfural is indicated by the fact that ammonia, an antidote for furfural, is the basis of the "pick-me-ups" used by heavy drinkers to relieve the headache. It is very probable that furfural in these beverages comes partly from the caramel used as the artificial coloring.

EXPERIMENTAL

Analysis of vanillin in artificial vanilla extract repeatedly showed the presence of furfural, which further work proved to be due, no doubt, to the caramel used as coloring. It was then decided to test caramel made by the ordinary method to determine the amounts of furfural formed.

In each experiment 50 grams of sugar were caramelized in a small evaporating dish at the temperature indicated, dissolved in 250 cc. distilled water, and the furfural distilled out of this solution determined by the Dox and Plaisance method.⁵ At least three experiments were made at each temperature. The following results were obtained:

Results of experiments

KIND OF SUGARS USED	TEMPERATURE	TIME HELD AT MAXIMUM TEM- PERATURE	FURFURAL FROM 1 KG SUGAR
	<i>deg. C.</i>	<i>min.</i>	<i>gm.</i>
Cane sugar.....	180	4	0.168
Cane sugar.....	185	4	0.198
Cane sugar.....	190	4	0.528
Cane sugar.....	193	4	0.564
Cane sugar.....	195	4	0.640
Cane sugar.....	200	4	0.944
Milk sugar.....	195	4	0.122
Glucose.....			Trace
Rice pudding			Trace
Peanut brittle (purchased at candy store).....			Trace

Fructose, honey, and galactose were tested qualitatively and furfural was found in each case. The fact that commercial peanut brittle,

⁵ Loc. cit.

which was tested, was probably made from glucose, is the reason why but a trace of furfural was found in it.

On the other hand an apple which had been allowed to bake too long producing a dark brown syrup in the bottom of the pan, gave a decided test for furfural. In this case cane (granulated) sugar was added to the apple as is ordinarily done in baking, and the caramel had resulted therefrom.

While cane sugar was found to give a larger yield of furfural on caramelization than any other sugar tested, it was also noted that boiling in an open pan with an equal amount of water for about ten minutes after caramelization was sufficient to entirely expel the furfural from this caramel.

The rice pudding made of $\frac{1}{3}$ cup rice, $\frac{1}{3}$ cup granulated sugar, and 4 cups milk showed but a trace of furfural; no doubt, because it had been cooked in an open pan in a slow oven for several hours.

DISCUSSION

The above results show without doubt that furfural is a product worthy of consideration in the making of caramel, for 1 kg. (2.2 lb.) of cane sugar yielded from 0.168 gram furfural (at 180°C.) to 0.944 gram furfural (at 200° C.), and but 0.1 gram of this aldehyde has been found sufficient to produce headache in man, while 0.5 gram fed to a rabbit or cat resulted in the death of the animal fed.

To be sure, one would never be able to eat 2.2 pounds of cane sugar made into caramel or peanut brittle, but it might be possible for one to consume one-fourth of this amount or a little more than one-half pound sugar made into peanut brittle. In this case, if the peanut brittle were a dark brittle, in fact any brittle cooked at 190°C. or above, one-fourth pound of sugar so made up would yield more than 0.1 gram furfural.

The experiments show that when boiled with water furfural is expelled. It is suggested, therefore, that when the product is cooked in the presence of water after caramelization, as in the making of cakes, frostings, and rice puddings, or for coloring when boiled with water, no precaution is necessary. Care should be exercised, however, to prevent caramelization in the baking of fruits, and in case such should happen it might be well to boil the caramelized syrup with an equal amount of water for ten or fifteen minutes before serving it. Also in the making of peanut brittle, it is advisable to cook at as low a tem-

perature as possible to obtain the desired result, thus making a light colored brittle, or better still, to use glucose or glucose syrup in place of cane sugar. This would have the additional advantage of reducing the cost of the product.

An objection raised to this, however, is that peanut brittle made with all glucose is not so sweet as that made from cane sugar. To overcome this objection experiments were tried using $\frac{1}{8}$ cane sugar, $\frac{1}{4}$ cane sugar, $\frac{1}{2}$ cane sugar, the rest being glucose in each case. The glucose was heated until it began to change color, then the cane sugar added, and the whole further heated, with constant stirring, until crisp when tried in cold water. At this stage, peanuts were added and the mass poured upon the bottom of a buttered pie tin and worked into shape with two case knives. Of the resultant products numbers III, IV, and V when tested were all free from furfural. Number II showed but a slight trace of furfural. For number I see experiments with cane sugar at 180°.

The following table gives a comparison of the cost, brittleness, and taste of the finished products. The taste was judged by five, only one of whom knew before tasting of any difference in preparation. The granulated sugar used cost \$1 for 10 pounds, corn syrup (the dark variety) 60 cents for 10 pounds, and peanuts 20 cents a pound.

The amount of candy was less than $\frac{1}{2}$ pound in each case.

Note that as the glucose increases in amount the product becomes less sweet and the cost decreases. In connection with cost, since 1 cup of

Comparison of cost, brittleness, and taste

NO.	CORN SYRUP		GRANULATED SUGAR		PEANUTS		TOTAL COST	BRITTLINESS AND TASTE
	Amount	Cost	Amount	Cost	Amount	Cost		
I			$\frac{1}{2}$ cup	\$0.022	$\frac{1}{4}$ cup	\$0 016	\$0.038	Very brittle, good, sweet
II	$\frac{1}{4}$ cup	\$0.0104	$\frac{1}{4}$ cup	0.011	$\frac{1}{4}$ cup	0 016	0 0374	Very brittle, good, sweet
III	6 tbsp.	0 0156	2 tbsp.	0 0054	$\frac{1}{4}$ cup	0 016	0 037	Very brittle, good, sweet. Less than II
IV	7 tbsp.	0 0182	1 tbsp.	0.0027	$\frac{1}{4}$ cup	0 016	0 0369	Very brittle, not as sweet as III, II or I, but preferred by two of those tasting
V	$\frac{1}{2}$ cup	0 0208			$\frac{1}{4}$ cup	0 016	0.0368	Brittle but not sweet

glucose (average of four weights) was found to be 320 grams and 1 cup of granulated sugar (average of four weights) was 200 grams, it seems quite natural that the finished product should be 10 grams more in number V made of all corn syrup than in number I made of all cane sugar. If sold by the pound this would need to be taken into consideration in reckoning the cost.

THE VALUE OF TEXTILE CHEMISTRY TO THE HOME ECONOMICS STUDENT

RUTH O'BRIEN

Instructor in Textile Chemistry, Iowa State College

Although the value and importance of textile chemistry as a science is undisputed and the subject has long been an important part of the curricula of the few textile schools in this country, our colleges and universities have, as a rule, hesitated to give it a place either in their scientific or technical departments. This has been due largely to the fact that the textile industries of the country are so localized in a few of the southern and eastern states that our northern and western schools do not appreciate the value of textile work to their students.

However, of late years a new influence has arisen to shape and mold the curricula of our colleges and universities—an influence embodied in our modern home economics departments. Long ago the movement for training the homemaker passed the stage of elective courses in cooking and sewing, and, with her welfare ever in mind, began to develop, not only more extensive courses in home economics, but also courses in other departments of such scope and content as to best serve her. Many subjects in science and economics, hitherto unexplored by the majority of women, took on new significance in the light of their application to household affairs, and many new courses organized from related fields have made their appearance from time to time. Textile chemistry is one of the latest arrivals and should be welcomed. It has many important rôles to play.

First it has a distinct rôle as part of the general education of all home economics students. From the beginning of this work we believed

that a knowledge of sewing as well as cooking was necessary to the prospective homemaker, but for some reason when we began to strengthen these courses by introducing their allies in other departments, our partiality to the subject of foods was very marked. Elementary work in dietetics, experimental cookery, food chemistry, physiological chemistry, and other subjects, was started at an early period, and has become more extensive every year, while our only additions to domestic art, other than basketry and lace making, have been attempts to give courses in art and design. We have been very slow in learning that other than esthetic qualities are desired in a fabric or garment. We have been satisfied too long to make our purchases by the simple process of sitting comfortably at a counter, feeling the fabrics with a knowing air practised chiefly to impress the clerk, and buying the one best suited to our fancy or pocketbook. The average young woman today not only does not have enough definite information on the subject of textile materials to make her purchases wisely, but often cannot even formulate an intelligent opinion on modern textile problems.

Teachers of sewing have long been aware of this and have attempted to remedy the condition by introducing a few lectures on so-called textiles, or by organizing courses under this title. In such cases, the question has often arisen as to just what subject matter should be included in 'textiles' and what in 'textile chemistry.' The question is still an open one. However, most of us who have seen a trained sewing teacher attempt to discuss and illustrate chemical tests in a sewing room where chemicals and laboratory glassware are not found, will admit that even the simplest chemical tests should be included in courses in the chemistry departments where at least the materials are at hand, and those of us who are teaching textile chemistry are not nearly so troubled about keeping within the boundaries of our subject as we are about covering, in the short time usually allotted to us, even a comparatively small part of that extensive science.

On the other hand, courses for the large class of general students must necessarily be very broad in their scope if they are to be of any value. We can hope to give such students only the fundamentals of the subject and create that intelligent viewpoint which every educated woman should have concerning the materials with which she works.

The girl who specializes in domestic art presents another problem, however. She should have as inclusive and extensive knowledge of her chosen subject as it is possible to give her in the four years of college

work. She should be led to realize that it has its scientific as well as artistic side. This viewpoint of a subject which has so long had the name of art applied to it is indeed very new, but our present troubles with inferior materials and the subsequent agitation for pure textiles, the scarcity of dyestuffs, and even the advertisements of our textile manufacturers themselves, have all brought home to even the most artistic soul that a very artistic costume may not fulfill its function on account of inferior textiles or dyestuffs, and that art itself cannot come to its full realization or even exist without the crude building materials.

I almost hesitate to discuss the third rôle of textile chemistry in home economics work. It seems to bring out into the light a problem which we all admit exists and yet which we do not have the courage to face. Yes, we learned long ago that a homemaker must be trained; we have developed departments in our colleges to supply this training, and the popularity of the work is bringing an increasing number of girls to our schools; but we are just beginning to learn that even after acquiring this knowledge, the modern college woman has no guarantee that her workshop, a home, will be provided for her. In spite of all our discussions on remote and immediate causes and our many and varied suggested remedies for existing conditions, the fact still remains that many of our graduates do not become homemakers and must earn their livelihood. More and more of our students are realizing this also, and those of us who have seniors and juniors in our classes are sometimes overwhelmed and bewildered by the frequent repetitions of that ancient question, "What can I do?" And what can they do? What do they do? The majority teach, of course, whether they are naturally fitted for teaching or not, and often we are relieved to thus place a girl and get her settled. But we are coming to learn that this army of dissatisfied and naturally unfitted teachers is gradually weakening the fiber of home economics work throughout the country and bringing back to us a more complex problem than ever.

Then there is the girl who frankly says that she does not wish to teach and throws her question back again, "What can I do with this training which I have spent four years of time and money in acquiring?" We must answer the question. Even if we are developing homemakers as our primary object, the problem has grown up with our work and must be faced. We are beginning to do this to some extent. There is no need to enumerate the many lines into which our graduates are going. Dietitians, lunchroom managers, visiting housekeepers, leaders

of canning clubs, county agents, have all found their places in the last few years. There have been many entirely new lines of work opened up, and yet, as we review the list, we are struck by the fact that so few of these positions seem to have developed out of domestic art and so many out of domestic science. Can there be any connection between this and the fact that we developed the subjects allied to cooking first? Did we make new positions for women and open old ones to them because we first trained women for those places? Did we bring the demand by furnishing the supply? I am inclined to think that we did and to believe that we can do the same in domestic art.

We have considered too long that domestic art fits a student only to become a dressmaker—a profession in which considerable capital is necessary if one is to rise very high. There are other professions which she can enter, and we can help her, not only by enlarging our work in art and costume design to such an extent that she can enter advanced courses in special schools, but also by developing the scientific side of the subject. For example, women are by nature interested in color, and there is no good reason why properly trained women may not become dye chemists in the future. The only reason why they have not obtained openings in the past is because they were not trained to fill them. The door is already open a little way and many women are employed in other branches of industrial chemistry. Department store teaching and buying are other new occupations for women which are proving that a knowledge of textile chemistry is a very valuable asset, and we have only to look ahead a little and prophesy many lines in which the scientific side of domestic art will be of great value to our college girls.

THE HOMEMAKERS' COURSE AT KANSAS AGRICULTURAL COLLEGE

MARY PIERCE VAN ZILE

Dean of Division of Home Economics

The organization of the Homemakers' Course at the Kansas State Agricultural College in 1903 signified the recognition of the need for a more universal education for homemaking. The twentieth century

demands of the home manager an understanding of the sanitary requirements of the home, a knowledge of values, absolute and relative, of the articles used in the house, quick attention to details, good judgment in buying, and a ready adaptation of means to the end in view. The purpose of the Homemakers' Course at the Kansas State Agricultural College is to furnish this training. The training is both specific and general. While it emphasizes primarily the practical and material problems of housekeeping, it does not stop here. The young women are constantly reminded that life is not drudgery—that technical knowledge fails to include the full meaning of an education. They are taught ideals as well as actualities, and are brought to see that, while skilful labor gives dignity to life, grace, refinement, and self poise are the highest requisites for true service.

The teaching in this course is no less accurate than in the college course, but it is necessarily different. Given as it is to students without scientific training, the instruction must be more largely a presentation of facts, without as much of an elaboration of the underlying principles. The work is intensely practical, and the hundreds of young women who take this course go back to their homes with a broader view of life, and a knowledge and training that will enable them to meet their responsibilities. The course is six months in length and is offered each school year, beginning at the opening of the college year in September.

Young women between the ages of eighteen and twenty-one are admitted upon presentation of common-school diploma, grammar-school certificate, or high-school diploma, or upon passing an examination in the following subjects: reading, writing, spelling, arithmetic, grammar, geography, physiology, and United States history. Young women over twenty-one are admitted without examination.

REQUIRED SUBJECTS

COOKERY I. Fall term. Laboratory, eight hours.

A laboratory course. Stoves, stove construction, stove management, and fuels are the first topics considered, and this discussion is followed by experiments illustrating the effect of heat upon starch and proteins. The necessary elementary principles involved are then applied to the cooking of cereals, vegetables, beverages, breads, meats, soups, simple cake mixtures and puddings, and to the canning and preserving of fruits and vegetables.

SEWING. Fall term. Laboratory, eight hours.

This is a course in hand and machine sewing. The fundamental stitches are applied to simple articles and to patching and darning. Practice is given in the use of the sewing machine and in the drafting of patterns by the straight line system. Suitable materials and trimmings are discussed and a set of undergarments and a shirt waist are made. A note-book is required.

COLOR AND DESIGN. Fall term. Laboratory, six hours.

This is a course in simple designing and in studying color relations, with special reference to problems in the home.

COOKING II. Winter term. Laboratory, twelve hours.

The work of this course is divided into three parts. Four weeks are given to home cookery, four weeks to general care of the home, and the remaining four to the planning and the serving of meals.

HOME NURSING. Winter term. Class work, two hours.

This course includes the study of the sick room and its care and furnishing, and the duties of the home nurse in giving intelligent assistance to the physician, and in contributing to the comfort of the sick. This involves also the ability to recognize and report symptoms correctly; to relieve pain; to give baths; to change bedding; to disinfect; and to treat wounds, burns, and sprains, as well as to meet successfully other emergencies that may arise in the home.

DRESSMAKING. Winter term. Laboratory, eight hours.

This course includes practice in the following: Adaptation of patterns, cutting, fitting, and making a cloth dress and fancy waist. The student furnishes all her material.

FLORICULTURE. Winter term. Class work, two hours.

Lectures in the classroom are supplemented by practical exercises in the greenhouse, dealing with the propagation and culture of flowers. Soil requirements, the planting of seeds, transplanting, cultivation, the making of cuttings, the selection of varieties adapted to the purposes of window gardening, lawn planting and cutting, are discussed in the lectures. An opportunity to become acquainted with the species recommended, and with the operations necessary for their successful culture, is afforded in the laboratory practice.

HYGIENE AND SOCIAL PROBLEMS. Fall term. Class work, one hour.

This is a lecture course covering the subjects that have a direct bearing upon the health of a young woman student. It also includes a discussion of the social hygiene problems of young women.

NOTE.—Students in this course are requested to elect an additional subject, and it is hoped that many will remain for a full course during the spring term.

FOR THE HOMEMAKER

THE BRITISH HOME¹

ARNOLD BENNETT

An evening at the Smith's. Mr. Smith returns to his home of an evening at 6.30 . . . (and) sits down to tea in the dining room. According to fashionable newspapers, tea as a square meal has quite expired in England. On six days a week, however, tea still constitutes the chief repast in about 99 per cent of English homes. . . . Mr. Smith gazes round at his home, his wife, and his children. He has been at work in the world for thirty-four years, and this spectacle is what he has to show for his labor. It is his reward. It is the supreme result. He hurries through his breakfast, and spends seven industrious hours at the works in order that he may have tea nicely with his own family in his own home of a night.

Well, the food is wholesome and sufficient, and they are all neat and honest, and healthy—except Mrs. Smith, whose health is not what it ought to be. Mr. Smith conceals his pride in his children, but the pride is there. Impossible that he should not be proud. He has the right to be proud. John is a personable young man, earning more and more every year. Mary is charming in her pleasant blouse, and Harry is getting enormous, and will soon be leaving school.

* * * * *

This tea which is the daily blossoming time of the home that Mr. Smith and his wife have constructed with twenty-six years' continual effort, ought to be a very agreeable affair. Surely the materials for pleasure are present! But it does not seem to be a very agreeable meal. There is no regular conversation. Everybody has the air of being preoccupied with his own affairs. A long stretch of silence; then some chaffing or sardonic remark by one child to another; then another silence; then a monosyllable from Mr. Smith; then another silence.

¹ Selected by Carrie A. Lyford, United States Bureau of Education, from the essay on the British Home in *Paris Nights*, (1908). Published with the consent of Mr. Bennett.

No subject of wide interest is ever seriously argued at that table. No discussion is ever undertaken for the sake of discussion. It has never occurred to anyone named Smith that conversation in general is an art and may be a diverting pastime, and that conversation at table is a duty. Besides conversation is nourished on books, and books are rarer than teaspoons in that home. Further, at back of the excellent, honest, and clean mind of every Smith is the notion that politeness is something that one owes only to strangers.

When tea is over—and it is soon over—young John Smith silently departs to another home very like his own, in the next street but one.

In that other home there is a girl whom John sincerely considers to be the pearl of womanhood. In a few months, John inspired and aided by this pearl, will embark in business for himself as constructor of a home.

Mary Smith wanders silently and inconspicuously into the drawing room and caresses the piano in an expectant manner. John's views as to the identity of the pearl of womanhood are not shared by another young man who lives not very far off. This other young man has no doubt whatever that the pearl of womanhood is precisely Mary Smith (an idea that had never entered John's head); and he comes to see Mary every night with the permission of her parents. The pair are, in fact, engaged. Probably Mary opens the door for him, in which case they go straight into the drawing room. Young Henry has disappeared from human ken.

* * * * *

Mr. Smith and his wife remain in the dining room, separated from each other by a newspaper, which Mr. Smith is ostensibly reading.

The parents. Well, you see them together. Mr. Smith has done earning money for the day, and Mrs. Smith has done spending it. They are at leisure to enjoy this home of theirs. This is what Mr. Smith passes seven hours a day at business for. This is what he got married for. This is what he wanted when he decided to take Mrs. Smith, if he could get her. These hours ought to be the flower of their joint life. How are these hours affected by the organization of the home?

I will tell you how Mrs. Smith is affected. Mrs. Smith is worried by it, and in addition she is conscious that her efforts are imperfectly appreciated, and her difficulties unrealized. As regards the directing and daily recreation of the home, Mr. Smith's attitude on this evening

by the domestic hearth is at best one of armed neutrality. His criticism is seldom other than destructive. Mr. Smith is a strange man. If he went to a lot of trouble to get a small holding under the Small Holdings Act, and then left the cultivation of the ground to another person not scientifically trained to agriculture he would be looked upon as a ninny. When a man takes up a hobby, he ought surely to be terrifically interested in it. What is Mr. Smith's home but his hobby?

* * * * *

He has put Mrs. Smith in to manage it. He himself, once a quarter, discharges the complicated and delicate function of paying the rent. All the rest, the little matters, such as victualling and brightening—trifles, nothings!—he leaves to Mrs. Smith. He is not satisfied with Mrs. Smith's activities, and he does not disguise the fact. He is convinced that Mrs. Smith spends too much, and that she is not business-like. He is convinced that running a house is child's play compared to what he has to do. Now, as to Mrs. Smith being unbusiness-like, is Mr. Smith himself business-like? If he is, he greatly differs from his companions in the second class smoker. The average office and the average works are emphatically not run on business lines, except in theory. Daily experience proves this. The business-likeness of the average business man is a vast and hollow pretence.

Besides, who could expect Mrs. Smith to be business-like? She was never taught to be business-like. Mr. Smith was apprenticed, or indentured, to his vocation. But Mrs. Smith wasn't. Mrs. Smith has to feed a family, and doesn't know the principles of diet. She has to keep children in health and couldn't describe their organs to save her life. She has to make herself and the home agreeable to the eye, and knows nothing artistic about color or form.

I am an ardent advocate of Mrs. Smith. The marvel is not, that Mrs. Smith does so badly, but that she does so well. If women were not more conscientious than men in their duties, Mr. Smith's home would be more amateurish than it is and Mr. Smith's "moods" more frequent than they are. For Mrs. Smith is amateurish. Example: Mrs. Smith is bothered to death by the daily question, "What can we have for dinner?" She splits her head in two in order to avoid monotony. Mrs. Smith's *repertoire* consists probably of about 50 dishes, and if she could recall them all to her mind at once her task would be much simplified. But she can't think of them when she wants to think of them. Supposing that in Mrs. Smith's kitchen hung a card contain-

ing a list of all her dishes, she could run her eyes over it and choose instantly what dishes would suit that day's larder. Did you ever see such a list in Mrs. Smith's kitchen? No. The idea has not occurred to Mrs. Smith!

I say also that to spend money efficiently is quite as difficult as to earn it efficiently. Any fool can somehow earn a sovereign, but to get value for a sovereign in small purchases means skill and immense knowledge. Mr. Smith has never had the experience of the difficulty of spending money efficiently. Most of Mr. Smith's payments are fixed and mechanical. Mrs. Smith is a spender. Mr. Smith chiefly exercises his skill as a spender in his clothes and in tobacco. Look at the result. Any showy necktie shop and furiously advertised tobacco are capable of hoodwinking Mr. Smith.

* * * * *

In further comparison of their respective "jobs" it has to be noted that Mrs. Smith's is rendered doubly difficult by the fact that she is always at close quarters with the caprices of human nature. Mrs. Smith is continually bumping up against human nature in various manifestations. The human butcher-boy may arrive late owing to marbles, and so the dinner must either be late or the meat undercooked; or Mr. Smith, through much smoking, may have lost his appetite, and veal out of Paradise wouldn't please him! Mrs. Smith's job is transcendently delicate.

In fine, though Mrs. Smith's job is perhaps not quite so difficult as she fancies it to be, it is more difficult than Mr. Smith fancies it to be. And if it is not as well done as she thinks, it is much better done than Mr. Smith thinks. But she will never persuade Mr. Smith that he is wrong until Mr. Smith condescends to know what he is talking about in the discussion of household matters. Mr. Smith's opportunities for criticism are far too ample; or, at any rate, he makes use of them unfairly, and not as a man of honor. Supposing that Mrs. Smith finished all her work at four o'clock and was free to walk into Mr. Smith's place of business and criticise there everything that did not please her! (It is true that she wouldn't know what she was talking about; but neither does Mr. Smith at home; at home Mr. Smith finds pride in not knowing what he is talking about.) Mr. Smith would have a bit of "a time" between four and six.

Mr. and Mrs. Smith are united by a genuine affection. But their secret attitudes on the subject of home management cause that affec-

tion by a constant slight friction to wear thin. It must be so. And it will be so until (a) Mr. Smith deigns to learn the business of his home; (b) Mr. Smith ceases to expect Mrs. Smith to perform miracles; (c) Mrs. Smith ceases to be an amateur in domestic economy, i.e., until domestic economy becomes the principal subject in the upper forms of the average girls' school.

The future. The cry is that the institution of the home is being undermined, and that, therefore, society is in a way of perishing, . . . And we are told: "It has come to this. This is the result of the craze for pleasure. Where is the home now?"

To which my reply would be that the home remains just about where it was. . . . Nevertheless, the home of the Smith's has a very real enemy and that enemy is not outside but inside. That enemy is Matilda. . . . She doesn't count, and yet she is the factor which, more than any other, will modify the home of the Smith's. . . . When you visit the Smith's the home seems always to be in smooth working order. But ask Mrs. Smith! Ask Mary! Get underneath the surface, and you will glimpse the terrible trouble that lies concealed. Mrs. Smith began with Matilda the First. Are you aware that this is Matilda the Fortieth, and that between Matilda the Fortieth and Matilda the Forty-first there will probably be an interregnum? Mrs. Smith simply cannot get Matildas. And when by happy chance she does get a Matilda, the misguided girl won't see the velvet with which the kitchen and the attic are carpeted.

Mrs. Smith says the time will come when the race of Matildas will have disappeared, and Mrs. Smith is right. But you say that the inconvenience brought about by the disappearance of Matilda will not exhaust the resources of civilization. The home will continue. But mechanical invention will have to be quickened in order to replace Matilda's red hands.

MENDING

Many traditions of the household have come to us from a past differing so essentially from the present, that it is worth while sometimes to examine our methods of work and see whether we are following certain usages blindly without present justification, or whether modern conditions call for some change in the adjustment of our time.

The following article from *The Youth's Companion* shows how one woman went to work to determine this question in regard to a common household occupation.

DOES IT PAY TO MEND?

Three years ago a woman who was addicted to overcareful and continual darnings and patchings of her clothes began to realize that instead of being thrifty she was probably wasting time. Like many other women, once she began to mend she never knew when to stop, for a misguided conscience nagged her into going on and on as long as there was a hole or a thin place in sight. The idea came to her of trying to copy the methods of the efficiency experts. She decided, therefore, to "standardize" her mending.

First, she made a list of the garments in common use that needed most frequent repairing; then she estimated the length of time each article could be worn without need of repair, and the average yearly cost. Following is a copy of the list, revised after three years' experience; but as no two women's experiences would furnish statistics that would be exactly alike, the list is given merely for illustration:

GARMENTS IN COMMON USE	ORIGINAL COST	LENGTH OF WEAR	AVERAGE YEARLY COST
		mos.	
Apron, kitchen overall.....	\$.60	18	\$.40
Apron, "tea".....	.50	24	.25
Combination garment, muslin.....	.50	8	.75
Corsets.....	3.50	12	3.50
House dress, wash.....	5.00	12	5.00
Kimono.....	2.50	24	1.25
Nightgown, muslin.....	1.00	8	1.50
Nightgown, flannelette.....	1.50	8	2.25
Petticoat, muslin.....	1.00	12	1.00
Stockings, lisle or balbriggan.....	.35	1	4.20
Stockings, cashmere.....	.50	1	6.00
Union suit, summer.....	.50	6	1.00
Union suit, winter.....	2.00	6	4.00
Waist, lingerie.....	1.50	6	3.00

As a guide to mending, such a list will serve in the following way: You will see that the "life expectation," so to speak, of a kitchen apron is eighteen months, and its average yearly cost is forty cents. If by one hour of mending you can lengthen the life of the apron six months, you have spent the hour well, *provided* that you could not earn more during that time by doing something else. But if by an hour of mending you can lengthen the life of the apron only one month, even if you estimate your time as worth only six cents an hour, you are paying more for the apron than it cost in the first place.

It may sometimes be necessary to take that course, just as it is sometimes necessary to borrow money at a high rate of interest, but it is false economy to do it unless there is no other way.

THE SOY BEAN

The soy bean, already one of the most important crops of Asia, promises to take an important place in the agricultural industry of the United States. It is said that it may be utilized in a greater number and a greater variety of ways than almost any other agricultural product. Not only are the beans, and the oil expressed from them, available as food, but soy bean oil is used for making paints, varnishes, soaps, rubber substitutes, linoleum, waterproof goods, and lubricants, besides its use in the Orient for lighting and other purposes.

In Japan the soy bean is one of the principal ingredients in the manufacture of shoyu (soy sauce), miso (bean cheese), tofu (bean curd), and natto (steamed beans). The beans are eaten also as a vegetable and in soups; sometimes they are picked green, boiled, and served cold with soy sauce, and sometimes as a salad. A "vegetable milk" is also produced from the soy bean, not only forming the basis for the manufacture of the different kinds of vegetable cheese, but used fresh, while a form of condensed milk is also made from it. All of these food stuffs are used daily in Japanese homes, and for the poorer classes are the principal source of protein.

Soy bean oil resembles that of cotton seed in many ways. The meal remaining after the oil is extracted from the beans has become important during the last few years as a food of low starch content, and so adapted to the use of diabetic patients.

Soy bean flour enters as a constituent into many of the so-called diabetic breads, biscuits, and crackers manufactured as food specialties. The flour or meal may be used successfully in the household as a constituent of muffins, bread, and biscuits in much the way in which corn meal is used.

An artificial milk like that manufactured in the Orient has been produced in small quantities in the United States, and recently a factory has been equipped to make this product. Such milk may be used for cooking in the household, and by bakers, confectioners, and chocolate manufacturers. Such products must, of course, be properly labeled.

The soy bean has also been utilized as a substitute for the coffee bean. When roasted and prepared, it makes an excellent substitute for coffee.

THE ADVANCE IN FOOD PRICES

Retail food prices in the United States are said to have advanced 19 per cent in the year ending with January 15, as shown in statistics prepared by the bureau of labor. The increase in four years was 30 per cent.

Every food staple except coffee and tea advanced during the year. Onions and potatoes led with increases of more than 50 per cent. Some of the advances were:

<i>Kind of food</i>	<i>Per cent</i>	<i>Kind of food</i>	<i>Per cent</i>
Sirloin steak.....	7	Cheese.....	27
Round steak.....	8	Milk.....	11
Rib roast.....	8	Bread.....	13
Chuck roast.....	7	Flour.....	38
Pork chops.....	10	Cornmeal.....	23
Bacon.....	8	Potatoes.....	57
Ham.....	4	Onions.....	58
Lard.....	22	Beans.....	39
Hens.....	16	Prunes.....	5
Salmon.....	7	Raisins.....	16
Eggs.....	32	Sugar.....	16
Butter.....	18		

EDITORIAL

The Food Situation. The Secretary of Agriculture, in a statement issued March 3, says:

There is nothing in the food situation of the country which justifies hysterical thinking or action.

The prices of food stuffs are high. A full and satisfactory explanation of prevailing prices is not possible on the basis of existing knowledge. It is only recently that agencies have been created in the country to study food distribution, and we have not all the necessary facts to enable us to arrive at the truth. Where the food supply is located, who owns it, what may be the difficulties of securing it, whether the local market conditions are due to car shortage, whether there is artificial manipulation or control, no one can state with certainty.

He emphasizes the necessity of learning the facts, not only because of present conditions "but also because they are prerequisite for the working out of a permanent, just and economical system of marketing."

He also emphasizes the necessity of limiting waste.

For partial immediate relief, every individual and community should consider earnestly the matter of food conservation and the limitation of waste. As a nation we seem to have a disdain of economizing. In many homes there is a strong feeling that it is "only decent" to provide more food than will be eaten and that it is demeaning to reckon closely. The experts of the Department of Agriculture report that the dietary studies made by them point to an annual food waste of about \$700,000,000.

The food waste in the household results in large measure from bad preparation and bad cooking, from improper care and handling, and, in well-to-do families, from serving an undue number of courses and an overabundant supply, and failing to save and utilize the food not consumed. As an instance of improper handling, it is discovered that in the preparation of potatoes 20 per cent of the edible portion in many cases is discarded.

Secretary Houston's statement that "the waste in families of very limited means is slight" unfortunately seems not to be wholly true. One can have little contact with the dependent poor without realizing

that in these families at least the proportion of waste in relation to expenditure is as great or greater than in the majority of well-to-do families.

Have Schools of Home Economics begun to realize their responsibility in this matter? They are preparing the public school teacher who influences large numbers of homes through the children; they are training girls who are going into their own homes to put in practice not so much precepts given them as the actual usage of the school; they are sending extension workers to rural families, and training visiting housekeepers; they are providing hospital dietitians and lunch room managers. If Europe up to this time has dealt with the food situation "more largely through conservation of foods, regulation of the diet, limitation of courses and quantities, and prevention of waste, rather than through direct control of production or regulation of distribution under any sort of dictatorship," does not the solution in America lie to a considerable extent in the better administration of the homes and the practical efficiency of those who are influencing the ideals of these homes?

To undertake a Campaign for Conservation might be the best work the American Home Economics Association could do.

Baby Week. Last year began the nation wide observance of "Baby Week," a popular educational program instituted by the coöperation of the Children's Bureau and the General Federation of Women's Clubs. Chicago, New York, and a few other cities had already held such a celebration, but in 1916, 2000 and more communities scattered over every state in the Union observed "Baby Week."

The report of the Chief of the Children's Bureau states that the success of Baby Week depends upon securing the interest of many people, public officials, committees of private citizens, teachers, librarians, business men, fathers, mothers, big brothers and sisters. Public meetings, exhibits, conferences with parents, including examinations of well babies, flags distributed by Boy Scouts or other organizations to every house where there is a baby; processions, plays, tableaux, school children's essays—these are some of the ways whereby the interest was aroused in the more than 2000 localities which gave a few days each for studying the needs of their babies and for asking themselves whether they were giving every baby his fair chance, or what common action was needed in order to protect all their youngest and most helpless citizens.

It is suggested that Baby Week for 1917 be observed from the first to the sixth of May.

One of the suggestions made is that the scope be enlarged to include all children under school age. As one mother says, "It requires only twelve months for a baby to become one year old and no longer subject to the hazards of 'infant mortality,' but there are still many risks for him to encounter; he is still absolutely helpless, although increasingly charming, and his parents are as eager to keep him well and happy, as desirous of sound advice, as they were last year. Open out the 1917 Baby Week to include children still at home with their mothers."

It is to be remembered also that well cared for, healthy mothers are necessary for the health and happiness of their babies, and that the importance of protecting the mother must be given a prominent place in the educational work of the campaign.

A bulletin of suggestions for Baby Week, 1917, may be obtained from the Children's Bureau, Washington, D. C., as well as a full report of the 1916 observance.

The New Vocational Bill. President Wilson signed the Smith-Hughes bill on February 23. The bill, after passing the Senate in July, 1916, and the House in January, 1917, was adjusted by a conference committee. In its final form it calls for an administration board consisting of the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Labor, the Commissioner of Education, and three others, one representing the interests of commerce and manufacture, one representing agricultural interests, and one the interests of labor.

The first appropriation will be available July 1, 1917. The amount appropriated for the first year is \$1,700,000 and a greater fund is authorized for each succeeding year until an annual total of \$7,200,000 is reached.

Provision is made for appropriation for salaries for teachers of vocational home economics, and for schools for the training of such teachers. Just how this will be interpreted so far as our own work is concerned, and what proportion of the money will be allowed for such work can be determined only after the full commission is appointed.

The Association at Kansas City passed the following resolution:

WHEREAS, the passage of the Smith-Hughes Act granting Federal Aid for Vocational Education has made available a considerable sum of money, part of which will be used for vocational education in home economics; be it

Resolved, That the American Home Economics Association in session with the Division of Superintendence of the National Education Association offers its services in an advisory capacity to the Board appointed to administer the

funds available under the act granting Federal Aid for Vocational Education, in so far as they are applied to vocational training in home economics.

This has been sent to the Secretaries of Agriculture, Commerce, and Labor, and to the Commissioner of Education, and has brought the promise that the resolution shall be brought to the attention of the Federal Board for Vocational Education as soon as it is organized.

COMMENT AND DISCUSSION

A correspondent writes:

May I make a suggestion for the JOURNAL? It is quite difficult as you know to secure the right teachers for summer school work in home economics, and yet there must be a number of excellent instructors and assistant professors as well as heads of departments who are available for this work, and also a number who would like to teach in a summer school away from their own institution. Is this the work of an agency or could it be handled informally through your office? For instance, if we needed an instructor and I knew that some one in another institution were available I would need only to write to the head of the department to discuss the suitability of her assistant for the place.

The JOURNAL office is glad to undertake to put heads of departments and those desiring summer work in touch with one another so far as this is possible. If those desiring such positions will write to the office, giving a brief account of themselves and naming the institutions with which they are connected, their letters will be forwarded to any who write for information in regard to instructors.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Feeding the Family. By MRS. MARY SWARTZ ROSE. New York: The Macmillan Company, 1916, pp. 450. \$2.10. By mail of the Journal \$2.20.

This book represents a valuable and highly successful endeavor to render into popular language and into practical precept present day knowledge of the science of nutrition. In the preface the author points out that, while many things, such as sleep, fresh air and exercise, contribute to health, the foremost consideration is food. The purpose of the volume is to provide a guide-book to good nutrition for a twentieth century family, so that housewives, who prepare something like a thousand meals a year for those dependent on them, may enjoy the service of scientific knowledge in the fulfillment of their tasks.

The cost of various foods, as measured in terms of their caloric content, is strongly emphasized throughout the book, but the method of obtaining proper quantities of protein and salts is also described. Thus, it is pointed out that milk at nine cents a quart furnishes protein more cheaply than round steak at twenty-eight cents a pound. It is also shown how milk affords the cheapest known source of lime which is used for the development and maintenance of the bones.

Adequate diets are suggested for all ages, in health and disease, and for the slender purse as well as for the more opulent. Thus, menus are given which will furnish a family of six with 14,000 calories a day at a cost of \$1.40 and this may be compared with the dietary containing the same food value but costing \$2.50 daily. The one represents an annual cost of \$900; the other, one of \$500.

Surely, such knowledge is of value if it can only be brought to those in need of it. The reduction in cost is effected by omitting eggs, substituting cookies for lady fingers, dried beef for chicken, dried fruits for fresh fruits, using the cheaper forms of fish instead of meat, laying emphasis especially upon cereals and vegetables, and yet allowing three quarts of milk especially for the children.

Knowledge of food values is now available as never before. A book like that of Mrs. Rose helps to make it of service to mankind.

GRAHAM LUSK.

Clothing for Women. By LAURA I. BALDT. Philadelphia: J. B. Lippincott & Co., 1916, pp. 454. \$2. By mail of the Journal, \$2.16.

Miss Baldt has given to the teachers of home economics and vocational subjects a book long needed and eagerly looked for. While written primarily with college classes in view it can be adapted easily to the use of students in the high school and to women in the home. It contains scientific, economic, and artistic facts concerning the construction of garments; technical instruction, and working designs for drafting, cutting, fitting, and finishing women's outer and under clothing; wholesome advice to the buyer of textiles as to the wise use of her money; and information to the teacher. The directions for designing and constructing clothing are practical and easily followed.

On account of the rapid changes in fashion, such a book is difficult to write in a way so that it will continue to be of value. Miss Baldt has, however, selected permanent principles on which to base her

instruction. She suggests ways of changing patterns, in order to adapt old to new styles, which tend to free the student from hard and fast rules of garment construction. Drafting and pattern making are too often taught in a dull, mechanical way, making them almost useless in education. Miss Baldt, however, seeks to develop thought concerning the essential constructive points of garments and the way to cover the body attractively. She shows that drafting is but a step toward a keener appreciation of line, freedom in altering patterns, and a better designing of garments.

The subject of pattern making is approached by means of a simple shirt-waist, discussed at first in its completed state, followed by the taking of measures, drafting the garment, and then testing the results. The author then shows how other articles of clothing can be developed from this pattern, and also how to copy illustrations or judge design. She decries waste of time in useless demonstration on the part of the teacher, and suggests for all pupils ample experimentation in materials until they learn to express themselves adequately. She stresses the part of her subject where the need for information is greatest and gives the sort of information which everyone wants and does not know where to find.

The book is divided into three sections: The first deals with the selection of clothing and discusses such practical matters as what to buy, what clothing should signify, planning a wardrobe, the choice of ready-to-wear clothing, textile suggestions, and clothing budgets.

The second section is on clothing design. It considers color, historic dress and ornament, principles on which to plan clothing, the use of commercial patterns, and simple problems of clothing design. The art teacher as well as the dress making teacher will be helped by the suggestions.

Part three is on the construction of clothing, and treats of the equipment and tools needed in the making of garments and how to use them; the stitches and constructive processes; the principles of mak-

ing suitable textiles to use in outer and under garments; trimmings and findings; and descriptive ideas on decoration and self-trimming.

The final chapter shows home workers, dressmakers, and teachers how to use the book to the greatest advantage.

Numerous clear illustrations, well-chosen book lists and suggestive questions add to the value of the book.

Miss Baldt believes all women should clothe themselves wisely and would have each know how to choose what is becoming yet according to the purse.

MARY SCHENCK WOOLMAN.

How to Live. By IRVING FISHER and EUGENE LYMAN FISK, Ed. 3. New York: Funk & Wagnalls Co., 1916, pp. 345. \$1. By mail of the Journal, \$1.10.

Probably there will be no single exception to general popular interest in the purpose of this book. The authors state this purpose as follows: To spread knowledge of individual hygiene—to extend human life, not only as to length, but also, if we may so express it, as to breadth and depth.

The various chapters deal with such subjects as Air, Food, Poisons, Activity, Hygiene in General, with supplementary notes on Alcohol, Tobacco, Colds, Degenerative Diseases, and Eugenics.

The chapter on air treats of housing, clothing, outdoor living, and deep breathing. The advice is, in the main, good, although there is no strikingly new point made. The remarks about drafts are capable of misconstruction. "A gentle draft is as a matter of fact one of the best friends which the seeker after health can have." Manifestly the authors mean that fresh air is such a friend, and that the mere stirring of air is in itself an advantage. The section on clothing gives some good advice. The section on outdoor living and that on deep breathing fall into the same category.

The chapter on food is an illustration of the well known difficulty experienced

by anyone who strives to present scientific facts in a popular form. Frankly, it seems to the writer that this chapter has little practical value. The statements made are in many cases so general as to be somewhat misleading. The statement that "ten calories of protein out of every hundred calories of food is not too small an allowance," does not, it seems to us, tell enough of the story. Again, the authors take too little account of previous habits and conditions. Anyone who has worked for years among families with generations of underfeeding back of them, will see the necessity for great care in setting food standards. The discussion of a possible excess of protein in the diet seems to us to stop short of practical and valuable conclusions. Taken all in all, the person with no knowledge of dietetics would get very hazy ideas on the subject of formulating a healthful diet.

The chapter on poisons deals with constipation and the following statement is made: "Free water drinking at meals may prove constipating." One questions the authority back of this statement. The chapter also deals with cleanliness, exercise, and care of the teeth.

The chapter on activity gives some good advice; that on hygiene in general gives fifteen rules for keeping well.

The notes on alcohol are valuable as is any discussion giving popular education on the dangers of alcohol. Whatever one may think of the value of restricted use of alcohol, it would seem to be the wiser part to give the public all possible knowledge of the harm attending its unrestricted use.

WINIFRED STUART GIBBS.

Commercial Publications.

From time to time commercial publications come into our hands that contain facts, not always easily available, that are useful to the teacher of home economics, as well as the housekeeper. One such publication is issued by the Lovell Mfg. Co., of Erie, Pa., on "Clothes Wringers and Cold Process Mangles." It gives different types of wringers with details of their construction and illustrations of many different types. It may be obtained by writing to the company.

A second pamphlet is called "A Century of Sugar Refining in the United States," issued by the American Sugar Refining Co., Brooklyn, N. Y. It gives a brief history of the refining industry, with some statements in regard to the manufacturing process, and has some fine illustrations.

BOOKS RECEIVED

Costume Design and Home Planning. By Estelle Peel Izor, illustrated by Katherine P. Brown and Rachel T. Dixon. Boston: Atkinson, Mentzer and Company, 1916, pp. 210. \$.90. By mail of the Journal, \$.98.

A Course in House Planning and Furnishing. By Charlotte Wait Calkins. Chicago: Scott, Foresman and Company, 1916, pp. 79. Paper, \$.60. By mail of the Journal, \$.68.

Food Study. (A text-book in Home Economics for high schools). By Mabel Thatcher Wellman. Boston: Little, Brown and Company, 1917, pp. 324. \$1.00. By mail of the Journal, \$1.09.

The Home and the Family. By Helen Kinne and Anna M. Cooley. New York: Macmillan Company, 1917, pp. 292. \$.80. By mail of the Journal, \$.90. (The Home-Making Series.)

A Layman's Handbook of Medicine with Special Reference to Social Workers. By Richard C. Cabot. Boston: Houghton, Mifflin and Company, 1916, pp. 524. \$2.00. By mail of the Journal, \$2.14.

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The following pamphlets may be obtained from the Supt. of Documents, Government Printing Office, Washington, D. C.: or from the department from which they are issued.

Digestibility of Vegetable Fats. By C. F. Langworthy and A. D. Holmes. U. S. Dept. of Agr., Bul. No. 505, Feb. 13, 1917, pp. 20.

Eggs and Their Value as Food. By C. F. Langworthy, U. S. Dept. of Agr. Bul. No. 471. Jan. 31, 1917, pp. 30.

Fats and Their Economical Use in the Home. By A. D. Holmes and H. L. Lang. U. S. Dept. of Agr., Bul. No. 469, Dec. 15, 1916, pp. 27.

The Food Value and Uses of Poultry. By Helen W. Atwater. U. S. Dept. of Agr., Bul. No. 467, Dec. 29, 1916, pp. 29.

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Homemade Fireless Cookers and Their Use. Farmer's Bulletin No. 771, U. S. Dept. of Agr., Dec. 1916, pp. 16.

Potatoes, Sweet Potatoes, and Other Starchy Roots as Food. By C. F. Langworthy. U. S. Dept. of Agr., Bul. No. 468, Jan. 17, 1917, pp. 28.

Studies of the Digestibility of the Grain Sorghums. By C. F. Langworthy and A. D. Holmes. U. S. Dept. of Agr., Bul. No. 470, Dec. 22, 1916, pp. 30.

Value to Farm Families of Food, Fuel, and Use of House. By W. C. Funk. U. S. Dept. of Agr., Bul. No. 410, Nov. 11, 1916, pp. 36.

Fourth Annual Report of Chief Children's Bureau, for fiscal year ended June 30, 1916. Dept. of Labor, pp. 27.

Some Facts Concerning Manual Arts and Homemaking Subjects in 156 Cities. By Joseph C. Park and Charles L. Harlan. Dept. of The Interior, Bureau of Education, Bul., 1916, No. 32, pp. 25.

The Physical Care of Rural School Children. By Taliaferro Clark. U. S. Pub. Health Service, Reprint No. 366, Oct. 6, 1916, pp. 8.

Relationship of Milk Supplies to Typhoid Fever. By W. H. Frost. U. S. Pub. Health Service, Reprint No. 380, Dec. 1, 1916, pp. 14.

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Colony Care of the Feeble-Minded. Revised and printed by the Committee on Provision for the Feeble-Minded, 702 Empire Bldg., Philadelphia, Pa.

House Heating. Bul. of Missouri State Board of Agriculture, vol. xlv, No. 6, June 1916, pp. 24, Secretary of State Board of Agriculture, 112-124 Agriculture Bldg, Columbia, Mo.

The Use of Lye in the Preparation of Food. By K. G. Bitting. Research Laboratory, National Canners Association, Washington, D. C., Jan. 1917.

Nursing as a Vocation for Women. By Katherine M. Olmstead. Exten. Div., Univ. of Wis., Madison, Wis., Bul. Serial No. 814, Nov. 1916, pp. 19, price 10 cents.

The Oceans: Our Future Pastures. By Zonia Baber. Reprint from the *Scientific Monthly*, Sept., 1916, pp. 5 (pp. 258-262.)

Report of the Committee on Dietary Food Supplies in the New York State Hospitals. Reprint from *The State Hospital Quarterly*, Nov., 1916. Utica, N. Y., pp. 14.

The Teaching of Thrift in the Public Schools. By H. R. Bonner and M. P. Shawkey, Charleston, West Va., 1917, pp. 54. (Contains a bibliography and songs.)

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FOODS AND COOKERY

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Milling and Baking Tests on Argentine and Walla Wheats. P. R. Scott and F. G. B. Winslow, *Jour. Dept. Agr. Victoria*, 13 (1915), nos. 11, pp. 661-666, fig. 1; 12, pp. 736-739.

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NEWS FROM THE FIELD

The Federated Association of Applied Arts and Sciences, Southern Section, Cal. In 1915, when the Southern California Institute was held at San Diego, a banquet was given at Hotel Grant for teachers especially interested in vocational branches. At a subsequent meeting, plans were discussed for a federated association, and, during the months which followed, a constitution was framed and adopted by the Home Economics, Agricultural, and Manual Arts Associations. As a result of this organization an unusually helpful and interesting program was presented in 1916.

December 19, a dinner was given at Hotel Clark, in honor of Dr. Frank Mitchell Leavitt, Professor of Industrial Education at the University of Chicago. Dr. Frank H. Ball, President of the Santa Barbara State Normal School, Dr. E. R. Snyder, State Commissioner of Vocational Education, and Ella V. Dobbs, of Columbia University, Mo., were also guests of the Association. Miss Ada Blanchard, President of the Federated Association, acted as chairman and introduced the speakers.

Dr. Leavitt spoke on the reorganization of courses of study for the first two years of high school.

Dr. Snyder spoke on the great need of increased vocational training, on the Smith-Hughes Bill and what it would mean to California in financially aiding vocational education. He also discussed briefly the certification of special teachers in California and the urgent need of a radical change in the laws governing the granting of high school certificates, since high school teachers are really all special teachers.

Miss Dobbs told of the work of the Federated Association of Applied Arts and Sciences in Missouri, especially dwelling upon the benefit derived from the close corre-

lation of the fine arts with domestic art and manual training.

At the behest of Dr. Frank Ball, H. E. Miles of Racine, Wisconsin, who happened to be in the city, gave an excellent talk on the vocational training in the country, and the need for the socialization of education. Mr. Miles is a prominent manufacturer, who for years has devoted a great deal of his time to industrial education. He is chairman of the Industrial Education Committee of the National Manufacturers Association and president of the Wisconsin Industrial Commission.

The section meetings on December 22 were of unusual interest.

Miss Letita Weer, of the Los Angeles State Normal School, addressed the Home Economics Section, urging the immediate need of a more thoroughly standardized course of study in home economics for high school classes. This is especially necessary for students who wish to use their high school work as a basis for normal or college training, but it would have a tendency to strengthen all of the work.

Dean Hunt of the College of Agriculture of Univ. of California gave a very instructive account of the Agricultural College, the correspondence courses of the college, the work and standards of the farm school at Davis. He also discussed the rapid advance of agricultural work in the high school, and the training necessary for teaching that work.

At a joint session of the sections Dr. Leavitt spoke on vocational training and Mr. Donoho told of the wonderful work accomplished by the Municipal Employment Bureau in the city and also in Southern California. The organization has achieved such success, both from the standpoint of employers and employees, that it is now a state, as well as a municipal, organization.

One of the greatest needs of the bureau at the present time is a well trained vocational director to whom all juvenile applicants may be referred. In this age of specialization, training is essential if young people are not to enter "blind alley" occupations, and the close coöperation of this bureau with our public schools would be of inestimable benefit to our boys and girls. The annual report of the Public Employment Bureau of Los Angeles District may be obtained, on request, from Mr. Harry C. Donoho.

At the close of the meeting an informal reception to speakers and guests was held and a picnic lunch served. The afternoon was devoted to a study of the exhibits at the Park and trips to manufacturing plants.

The National Child Labor Committee has been making a comprehensive study of child labor in agriculture—an almost untouched, yet urgent, phase of the problem. They are also investigating and regulating the work of young children in street trades, which are not only morally dangerous, but are industrial blind-alleys as well. They hope to make a systematic study of the relation of child labor to juvenile delinquency, while continuing to work for better compulsory education, vocational training, and mothers' pension laws.

The Child Labor Committee believes that the Keating-Owen Bill, passed by Congress in August, marks the greatest step yet taken in child labor reform. That law, when in force after September, 1917, will remedy the worst conditions persisting in manufacture and will reach 150,000 boys and girls.

The Vocational Education Association of the Middle West held its third annual convention at the Auditorium Hotel, Chicago, January 18-20.

The special object of this association is "the discussion of problems relating to industrial, agricultural, and commercial education in their various phases" that all may

become familiar with the different solutions proposed for "industrial preparedness."

One session was devoted especially to Work for Women; Mrs. Harlan W. Cooley, President, of the Chicago Women's Club, presided, and addresses were made by Florence M. Marshall, Principal Manhattan School of Trades for Girls, on Training Girls for Wage-Earning Occupations; Miss Abby Marlatt, University of Wisconsin, on Efficiency in the Home; Prof. David Snedden, Columbia University, on the Double Problem of Vocational Education for Women. Miss Isabel Bevier, of the University of Illinois, and Miss Ida M. Cook, Supervisor Household Arts, Chicago Public Schools, led the discussion.

Other sessions discussed Vocational Education from the standpoint of organized labor; the Principles of Agricultural and Industrial Legislation, and Vocational Efficiency.

Ellen H. Richards Memorial Meeting.

The home economics department of the Ohio Mechanics Institute, Cincinnati, Ohio, celebrated Richards Day with an appropriate program.

Mrs. Gail Cornelius, dean of the department, sketched Mrs. Richards' life. Miss Hutzler told of the Lake Placid Conference of 1899, which marked the beginning of an organized home economics movement in this country. Miss Riggs read a paper on The Art of Homemaking, showing that science will make woman more efficient as housekeeper, as homemaker, and as mother.

Miss Tischler, in charge of the work in domestic art, spoke about Mrs. Richards in relation to clothing.

A living library of Mrs. Richards' books was the contribution of the students in the home economics department. They gave a series of short talks.

The celebration ended with a social hour, with tea and tea-cakes made and served by the students.

In connection with the meeting of the American Association of Agricultural Colleges and Experiment Stations, held in Washington in November, 1916, there was a conference of home economics teachers employed in Land Grant Colleges, presided over by Mrs. Henrietta W. Calvin of the Bureau of Education.

Mrs. Calvin briefly reviewed the meeting of this same group of women in Berkeley, California, in August, 1915, which, as well as the meeting in Washington, was convened in response to a call issued by the Commissioner of Education. At the meeting in Berkeley a committee of three was appointed to present to the executive council of the American Association of Agricultural Colleges and Experiment Stations a request that there be created a Division of Home Economics in the College Section of the above-named association.

The committee, consisting of Miss Berry of the University of Minnesota, Mrs. Morgan of the University of California, and Miss MacKay of the Iowa State Agricultural College, reported, through its chairman, Miss Berry, favorable action and the authorization of a Division of Home Economics. Miss Berry, of Minnesota, was unanimously elected chairman and Miss Helen Knowlton, of New Hampshire, recording secretary of this Home Economics Division of the College Section of the American Association of Agricultural Colleges and Experiment Stations.

The meeting was addressed by Dr. Claxton, Commissioner of Education, who emphasized the peculiar kind of obligation to the people that belongs to instructors and directors of work in home economics.

Miss Stanley of the University of Missouri was the first speaker of the day and discussed "The content of special methods courses for students preparing to teach home economics." Miss Stanley's outline will be given in the next number of the JOURNAL. Miss White of Ohio State presented an outline that has been found effective in Ohio, and Miss Loomis, continuing the discussion of the same paper explained the work in the University of Nebraska.

The topic "Adjustment of college re-

quirements" was discussed by Miss Colwell of West Virginia, Miss Turner, Mr. Porter, Miss Haggard of Kansas, Miss White of Michigan, and others.

The discussion relating to basis for increase of home economics salaries was opened by Miss Marlatt of Wisconsin. She stated that it should be dependent upon teaching power, publication and research, and placed especial stress on teaching power. Miss Bevier also emphasized the need of teaching power in the individual, stating that "the teacher must have a philosophy of life to hold herself and others steady. She must be able to make some contribution to the life of the student and she must be able to do good team work. She must be one who will grow in her efficiency."

In the discussion of the basis of the allotment of teachers' time, Miss White of Michigan said, "There must be an adjustment between the amount of work which is a burden and the amount of work which is an inspiration. The teacher should feel inspired to do outside work for herself." Miss White thought the schedule should be so arranged that the freshmen and sophomores could come in contact with the strongest teachers in the department. Some thought that the number of pupils taught instead of the number of actual hours spent in the classroom should be considered.

Miss MacKay reported a wide variation in teaching hours in Iowa State College.

In considering the preparation for extension teachers and women county agents, Miss Rose of Cornell University advised requirements similar to those made for men county agents: graduation from a four years' home economics course, five years practical experience, and one year of graduate study.

The conference agreed that women extension workers were often given too many hours of work per day and that it would be well to send two women into each field to share in the work done.

No other conference of this kind will be called, since a yearly meeting of those interested in these subjects will be held in connection with the annual meeting of the A. A. A. C. and E. S.

THE MEETING AT KANSAS CITY

The meeting of the American Home Economics Association at Kansas City in connection with the Department of Superintendence of the N. E. A. was as great a success as the one held last year at Detroit. That it is desirable to hold such sessions in connection with this N. E. A. meeting is well proved.

There were nearly three hundred present both morning and afternoon. The hall at the Y. W. C. A. which was given over to us was filled to overflowing. The program as announced was carried out with few changes. The most important addition was a short speech by Miss Alice Ravenhill, whose unexpected presence was most welcome. As many of the papers as possible will be given in later numbers of the Journal.

In addition to the meetings many other opportunities for becoming acquainted and making ourselves known were offered.

The JOURNAL and Association were given a prominent position near the registration desk at Headquarters and many superintendents of schools and others gained here their first knowledge of our work.

On Wednesday several of the home economics visitors attended the meeting of the Home Economics Section of the Woman's Club and made brief addresses.

On Thursday a motor bus was provided for transporting home economics visitors to several schools and school lunch rooms. In the afternoon of the same day there was an automobile drive through the city and afterwards a tea at the Technical High School, given by the Kansas City Home Economics Association. On Friday those attending the luncheon that was announced at the Y. W. C. A. not only filled the space available but an overflow of an equal number was taken care of at the Kupper Hotel.

Brief Notes. The next convention of the American Chemical Society is to be held in Kansas City, April 11 to 14. The headquarters are at the Hotel Muehlbach. The complete program will be available about April 3.

In addition to the resolutions already noted in the JOURNAL (March and April editorials) the following was passed with enthusiasm.

"Resolved, That a hearty vote of thanks be extended by the American Home Economics Association to Mrs. Van Zile, chairman of the program committee; to the Kansas City Home Economics Association, who entertained us yesterday afternoon; to Miss Essie Heyle, our Kansas City hostess; and to all the other Kansas City teachers who have so generously contributed toward the making of our present meeting such a pleasant and profitable session."

The next meeting of the Division of Superintendence is to be held in Atlanta, Georgia.

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SOME ADMINISTRATIVE PROBLEMS IN HOME ECONOMICS IN THE PUBLIC SCHOOLS¹

HENRIETTA W. CALVIN

Specialist in Home Economics, United States Bureau of Education

The administrative problems connected with home economics instruction resolve themselves, as do all school problems, into two groups: those resulting from human characteristics and conditions; and those due to the never absent financial restrictions.

The all important human element involved in these problems is that of the children: children from homes so prosperous that every duty is performed by hired servants; children from the middle class homes where all family members coöperate in discharging home tasks; children from homes where religious differences make many American practices offensive; children who never have quite enough food, or quite sufficient clothing, yet who, though often both hungry and cold, must be evolved into good citizens; and children from homes where no word of English is spoken and where the commonest American home and school standards are unknown must all be assisted in their development toward good citizenship. To adjust the courses and the lessons in the courses, to decide upon the points where special stress is most needed, to establish coöperation with the home, to secure the friendly interest of local dealers so that they will assist the teacher in her instruction; all of these elements enter into the general adjustment for the good of the child.

Satisfactory courses in home economics are vocational, pre-vocational, and of general educational value. They are vocational in so far

¹ Presented at the meeting of the American Home Economics Association, Kansas City, March 2, 1917.

as they prepare for the vocation of homemaking, the occupation into which 93 out of every 100 enter; they are pre-vocational in so far as they prepare for the various wage-earning occupations which are out-growths of former home industries and which now employ the majority of wage earning women; and they are of general educational value in so far as home economics instruction stimulates appreciation of scientific knowledge, awakens social conscientiousness, and trains in the accurate observation of the phenomena of plant and animal life and the commercial activities of the city in which the student lives.

To formulate a course that will serve the school community is of primary importance. Such courses must be based upon a knowledge of the economic and social status of the homes from which the students come; of the probable years the girl will spend in school; of the occupations probably open to her upon leaving school; of the probable number of years she will work before marriage; of the information of which she will be in greatest need when she enters upon her homemaking life; of the opportunities offered for supplementing her regular school training by extension classes, both during her wage earning years and after her marriage; and upon information as to the probable continuance of certain groups of girls throughout elementary and secondary schools and their later entrance into college or university.

A rigid uniform course in home economics in the school system of a larger city can never properly serve the needs of the different school communities. Adaptation and diversification to meet the economic and social conditions must be made possible. This interpreted means establishing home economics work in lower grades in some schools than in others; it means allotting a greater portion of school time to this work in certain schools than is given in others; it means sometimes classifying students by age and need of instruction rather than by grade; and it means, more than all else, the adaptation of the actual lesson to the particular group of students. It means giving to the Jewish child that which the Jewish child needs and can use; to the newly arrived foreign child that which will most help the family in adjusting their habits of life to the requirements of a new environment; to the child of the unthrifty American that which will tend to awaken an appreciation of the value of economy and intelligent consumption; to the child of the well-to-do that which will establish standards of beauty, simplicity, and right living, and remove the impression that work with the hands degrades.

These variations and adaptations of courses do not mean that each teacher plan her own work; indeed, quite the opposite is true. There must be definitely and carefully planned courses, consistent throughout, leading the student to a pre-determined goal, by methods adjusted to social and economic needs. Stress upon the various phases must be placed according to the community need.

Adaptation of courses necessitates extreme care in the placement of teachers of home economics. Only teachers of a sympathetic and understanding mind should be detailed to the cosmopolitan sections of a city, and only those who are willing to acquaint themselves with the most vital needs of the children from poor families should be permitted to teach in the poorer quarters. The weaker and more inexperienced teacher may serve her apprenticeship in the schools in the more prosperous portions of the city where a formal course of study may be administered.

Ability and willingness to serve in the difficult sections of the city should be rewarded by increased salary and by free time during the school day, that the teacher may establish acquaintanceship with the school community.

Efficient teaching demands small classes and individual instruction, but small classes necessitate the employment of more teachers, and the employment of more teachers increases school expenses.

The theory that all school purchases should be in large quantities, by one agent, and from competitive bids is so good that it is almost incomprehensible to the average school board that home economics people should not like such an arrangement, and that, when in force, it seriously hinders the efficiency of their teaching.

The wise spending of money is an essential part of any home economics course and the students must have an opportunity to market for the food classes, to aid in the selection of replaced equipment and the materials used in furnishing the practice house.

The slight saving effected by collective purchasing by the school board's financial agent is more than compensated by the training received by the children in seeing and assisting in marketing, and also in the teachers opportunity to vary the lessons to meet the local conditions.

Articulation between grade and high school courses must be established and this can be successfully done only where authority and responsibility for home economics instruction is centered in one in-

dividual. In large cities assistant supervisors are needed. Child, parent, school principal, room teacher, special home economics teacher—all add to the administrative problems, and all conflicting elements must be adjusted if the best instruction is to be given to the child.

The tax-paying portion of the community complains at the cost of the newer type of education, seldom realizing that the social burden resulting from ill trained non-taxpayers finally falls upon the property owner. Thus the human problem and the financial problem become conflicting elements, and, in the effort to effect an adjustment of these, many a superintendent and supervisor have met defeat.

Further administrative problems arise when the theory of adaptation of work to pupil-need is put in practice, since it involves the adjustment of class schedules and the maintenance of coöperative effort among many teachers and principals, some of whom may not fully understand the need of this variation nor be in full sympathy with the newer educational ideals.

Nor do courses, teachers, principals, and finances, comprise the entire list of possible causes of administration problems. Not only "What shall be taught?" but "Where shall it be taught?" and "How shall the teaching be done?" are ever present and debatable questions.

In smaller school systems centers for teaching home economics have been found adequate, but as the population becomes more dense the tendency is toward larger school buildings, and the time arrives when there are enough girls in each school to keep the home economics rooms in constant use.

If the six-three-three-plan prevail, these centers will of necessity be established for the children of the fifth and sixth grade, and the junior high schools will be equipped completely for their work. Whether the junior high school be a part of the school system or the older type of high school be maintained, in either case it seems desirable that a full course with three double periods and two single periods per week be given throughout the ninth year.

If work begins in the fifth grade—and in the fourth in the cosmopolitan sections of the city—and if in the fifth and sixth grades three hours weekly, and in the seventh and eighth five hours weekly are given to homemaking subjects, then it will be found that one sewing room, one laboratory equipped for twenty pupils, and one small house or apartment can be advantageously maintained in each school.

The laboratory equipped for twenty to thirty with small cooking utensils permits teaching many children, a little lesson at small expense. This is permissible for the average child in the fifth, sixth, and perhaps in the seventh grade, but some other method must be introduced if food preparation classes are to hold the interest and attention of eighth and ninth grade girls and give to them the knowledge, speed, and efficiency which rightfully belong to children completing the grammar or junior high school grades. The sale of the food prepared in class gives an opportunity for this better type of teaching and diminishes the expense of the department. Penny lunches, teachers' lunches, food sales, and contributions to the school luncheons, all offer excellent opportunities for the cooking of family sized recipes.

The advantage of practice homes as places for teaching home economics has appealed to many educators. That the more nearly the conditions under which the instruction is given can approximate those of a real home, the more valuable that instruction, has been accepted as true by many superintendents and supervisors.

The majority of home economics teachers have not, up to the present time, been prepared to manage properly a practice house, and have feared to attack the problem of the school lunch. The establishment of these has frequently met with the opposition of the teachers. To add duties through the noon period and not proportionately decrease other demands is manifestly unfair to the instructor having charge of food service. An inclination to grant to the teacher free time in acknowledgement of her noon work would remove some of the opposition to these added responsibilities, and the colleges are so generally establishing practice houses that from now on the teacher will be more ready to make use of these in public school work.

When satisfactory courses in foods, clothing, and home management have been made part of the required work of all girls until they have completed the ninth grade, and elective courses in home economics have been established in all high schools except those limited to trade or commercial training, the work, the real work, of the public schools will have been well begun, but much will remain to be developed.

The wage-earning woman should have an opportunity to extend her knowledge in foods, clothing, personal hygiene, and sanitation in order that she may conserve her own health and intelligently expend her own income to meet her own requirements in food and clothing.

The wage-earning girl needs instruction somewhat different from that given to the actual homemaker. These latter may rightfully demand that the public school system afford them opportunities for perfecting their knowledge in homemaking.

The home worker and the wage earner require a somewhat different type of teacher from the one usually employed in the day schools.

To find women with practical experience in home life or in trade work who are able also to teach well is difficult. Indeed the whole question of securing and retaining satisfactory teachers of home economics presents many complications. Part of these difficulties arise because school boards limit too closely the compensation given for work of this kind, part come from the fact that many of the best colleges giving teacher training are located in villages too small to afford the student opportunities to acquaint themselves with city life problems, or to practice teaching under average city conditions, and not a few of the difficulties arise because of the marriage of the teachers. There is an average annual change of about one-third of all employed home economics teachers.

The child with his environment, the parents with their lack of understanding of school problems, the school principal beset with many demands, the room teacher jealous of encroachment upon her time with her students, the special home economics teacher, often young and inexperienced in life and city problems, the tax payer ever criticising each added expenditure; all add to the administrative problems involved in building into a school system an adequate department of home economics, that will give to school girls the elements of an education for homemaking that will lead them to discover their special adaptness in order that they may later choose further vocational courses and find the wage earning occupation best suited to their abilities; and that will broaden the intellectual outlook of all girls so that they may better adjust themselves to their positions as responsible citizens in their community.

THE SCHOOL LUNCH AS A PROJECT IN TEACHING COOKERY IN THE ELEMENTARY SCHOOLS

ESSIE MARGARET HEYLE

Supervisor, Kansas City Elementary Schools

The school lunch movement is growing faster than those who are not connected with a city school system realize. Whether we home economics teachers are to use these lunch rooms for teaching cookery is a matter for serious consideration. Kansas City has been experimenting with this problem now for over three years.

The history of our public school lunch movement is similar to that of other cities. The efficiency of our schools was retarded by the malnourished and undernourished children. Many of them, from homes in which the mothers worked, were given 5 to 10 cents and locked out at noon. Those who resisted the attraction of the tops, marbles, jacks, pickles, and candy, and tried to buy nourishing food with their few pennies, often suffered because they had chosen unwisely, or because the food had been spoiled or poorly prepared.

One principal asked for a lunch room because too many children were sent to him in the afternoons who were feeling the effect of buying chilli in which the restaurant keeper did not use fresh meat. Another principal was appalled when he discovered that the groceryman opposite sold 39 barrels of pickles yearly to the pupils of his school. Other principals objected to the energy wasted in bringing a cold lunch to the body temperature and in digesting such foods as doughnuts, pies, thick slabs of cheese, or pork. For such reasons as these, three lunch rooms were established and each granted to a separate concessionaire who was expected to coöperate with the principal and home economics teacher. But unfortunately the proposition was a money making scheme to the concessionaire and since the school fixed the prices there was a constant fight to have simple nourishing foods of good quality sold.

After two years of this struggle Mr. Patterson, a new principal in town, asked for and was granted a lunch room, not because the pupils in his district particularly needed one, but in order that the girls in the cookery classes might have an opportunity to cook in larger quantities. Mr. Patterson believed that the home economics work should function in the life of the school, not only for the good of the school and of the pupils rendering such service, but because such direct teaching would

also help the home economics lessons to react more definitely and surely upon the home life of the pupil.

We knew of no other school in which the cafeteria lunch was prepared wholly by the pupils in their regular cookery lessons, and so the working out of the plan was our own. While it is far from being a model it has a sufficient number of good points to justify us in patterning the existing lunch rooms, and those later established, after this Garfield lunch room plan. The advantage of having the entire management and preparation of foods in the home economics department was at once apparent in the better cooked, cheaper, more wholesome, and more nourishing foods. The advantage to the child in the cookery classes will be discussed later.

The plan as worked out for the elementary schools is as follows:

Each child has one year of regular cookery before she takes lunch room cookery. This is in order to establish certain ideals and definite habits of cleanliness and of manipulation, and to give fundamental facts about foods and principles of cooking.

Each class is divided so that a lunch room class will be composed of but 8 to 12 pupils. Lunch room classes meet one-fourth of a day once a week, but alternate so that a class that comes the first quarter of a day one week will cook the second quarter of the day the next week. One half of the boys in the room go to manual training when half of the girls go to cookery so that the grade teacher has a class left in her room to teach. This is an expensive arrangement as far as teachers salaries are concerned, but is necessary if the girls are to profit by this type of cookery lessons.

Each lunch room has a helper, paid from the lunch room receipts, who does all heavy lifting, washing of lunch room dishes, mashing of potatoes, and also the paring of the potatoes or other such routine duties after the pupils have mastered them sufficiently so that they have no further educative value.

Each girl is responsible for washing all dishes which she uses in her own cooking, for leaving her working space in perfect condition, and for her share in doing the general cleaning of the room.

Menus are varied sufficiently and are inclusive enough so that, as far as possible, cooking may be done in family quantities, and so that no girl needs to repeat a lesson she has learned. Soup, cocoa, white sauce, and a few other foods must of necessity be prepared in larger quantities than those used in a family.

For every lesson a record is kept of the work of each girl and as a rule only failures are repeated. This takes careful planning on the part of a conscientious teacher who is unwilling to sacrifice the good of the pupil to the preparation of the lunch.

A home economics teacher who has charge of a lunch room is required to teach five less classes a week than other home economics teachers. This is in appreciation of the fact that such a teacher is under a heavy strain during the noon hour, a rest period for other teachers, and that she needs time for bookkeeping, planning, and ordering.

Lunch room receipts cover the cost of all food, the up-keep of equipment, the expense of all help except teachers' and janitors' salaries, the laundry, and usually the cost of the food materials used for regular fifth grade cooking lessons.

During the three and one-half years that this plan has been in operation, and that is now in eight elementary schools, we have learned certain things about the lunch room as a project in teaching cookery:

First. That lunch room cookery should never be the only type of cookery lessons given because too much needed instruction must be omitted. There is not time for teaching meal planning, table service, food values, or invalid cookery, and the cost of foods presents a different problem from that of the home because lunch room supplies are bought wholesale.

The family meal plan, whereby classes in 9 of the Kansas City schools prepare lunches for groups of teachers, who pay 15 cents each, presents a method of teaching family quantity cooking which has the advantage of giving pupils experience in planning meals for a definite cost, and in marketing and serving. Two negro schools give lunch room cooking to the sixth grade girls, and family meal plan cooking to the seventh grade girls for at least part of the year.

Second. We have learned that large quantity cooking, the product of which is to be used for a definite purpose, is a better method of teaching technique than the lesson with the individual recipe. In some part of a cookery course technique should be emphasized to the point where there will be for the pupil a real joy in accomplishing because the success of the product is sure. Does not this emphasis on practice belong to a large extent in the elementary schools, where the pleasure in using the larger muscles is keener and the interest in theory less interesting than to the older girl?

Third. We have found that cooking for others is a far more interesting and stimulating activity than cooking for oneself. It seems to be a more gripping experience and one which the pupil feels to be more worth while. It is only in a few instances of academic minded girls that pupils who have had large quantity cooking wish to go back to regular cookery. If you ask a girl who has had both kinds of cookery which she prefers, you are quite certain to get some such reply as this: "Oh, I like lunch room cooking best because you cook things for other people to eat and you know that they are good or else they wouldn't buy them." All of us want someone's approval of our products. This desire for approval is manifested in the regular cookery classes by the wish of pupils to serve their teacher or to take home what they have made, to show mother and father. I have heard children insist on taking home baked potatoes, bacon and omelet, griddle cakes and other foods equally undesirable when cold, and once when I was visiting a class a child sent back an imposing looking chauffeur in livery to get three prunes which she had cooked that day and forgotten. Surely it is worth while to cultivate directly in a girl this interest in cooking for others and the resultant pride in her success.

Fourth. We believe that the establishing of right food habits is one of the most important functions of any school lunch room, and that the habit of eating simple, nourishing foods will be more permanently fixed if the pupils prepare at school the exact foods that they learn to like in the lunch room. As one of the boys in a lunch room class expressed it, "I am going to put this over on the folks at home tonight." This desire to "put over" on the rest of the family what has been learned at school is the real test of our teaching. If what we teach does not function in the home life of the pupil our home economics teaching is in vain. We have not investigated sufficiently to be certain, but we believe that lunch room cookery is functioning in the home more than regular cookery.

Fifth. We have found that lunch room cookery has a real social value in that it gives an opportunity for pupils to share together in a common enterprise for the benefit of a large number. There is a definite feeling that the success of the lunch that day depends upon each one doing her utmost not only in the preparation of the dish assigned to her, but also in the doing of any extra tasks with which she can help. The joy of the children in rising to the occasion is inspiring, and the sense of responsibility they manifest in this common undertaking makes one hopeful for a more perfect coöperation among the women of the

future in undertakings of common social interest. "The moral and practical discipline from sharing in a round of home duties is lost in many homes. Since this moral purpose, altruism, and cooperative spirit arising from wholesome home life are so often lacking in the present day city home, it is well for us to do what we can to emphasize these qualities, not only for the sake of the home and society, but because knowledge that is gained by participating in social situations is more genuine and effective."

Sixth. We have learned that no better method of developing independence, initiative, and resourcefulness can be found than to ask a girl to take the responsibility of preparing weekly, by herself, something that is to be judged on its merits and used by her associates. After a little experience in the lunch room girls can follow a new recipe independently, dividing it or increasing it, as the need arises, without the least hesitation, and with all of the confidence which is gained by having former efforts praised by those who patronize the lunch room. As one little girl told her mother who hesitated about allowing her daughter to prepare the stuffing for the Thanksgiving turkey: "Well, but mother, I made it at school and they all paid money for it and liked it." The same independence and confidence in her own ability does not seem to me to be possible when a girl prepares just an individual amount which she alone samples. The fact that each girl is responsible for the success of a dish seems to put her on her mettle and she expects and receives less help than she would if she were making an individual recipe under a teacher who spent all of her time directing the preparation of the one dish. The resourcefulness and initiative developed in working out such individual problems is the most decided advantage of such cookery and it is to be hoped these will be carried over into working out problems in like situations in life.

I have been interested in writing this paper to see how strongly I seem to be advocating this type of cookery. As a matter of fact, Kansas City is seriously considering a different plan in the new lunch rooms that need to be installed. This change is contemplated because the plan now in operation is necessarily expensive as far as salaries are concerned, is not workable in a small school to which a home economics teacher goes but once or twice a week, and because we realize that the variety of food that we sell is not needed by the child who must buy his lunch. We are now trying the plan in one school of serving a very simple lunch consisting of bread, fruit, and one hot dish, prepared by a

woman under the direct supervision and management of the home economics teacher and principal. When the food to be prepared in the regular lesson is desirable to serve in the lunch room each girl prepares a larger amount than the individual recipe.

But in spite of the fact that it is possible that we may not extend the use of the school lunch as a project in teaching cooking, we are convinced that lunch room cookery has a decided advantage in that such activity gives increased opportunities to develop technique, responsibility, initiative, independence, and ability to coöperate in a social project which is interesting to the girl. These are vital educative values and an opportunity to use the lunch room to develop such qualities in our pupils should be taken advantage of whenever possible. However, lunch room cookery can not have these educative values for all girls unless the class is kept under twelve in number, and unless there is a capable, conscientious and real teacher directing the work. Even under ideal conditions it is desirable to have lunch room cookery only a part of a foods course and to precede it, and follow or supplement it with lessons that can not easily be taught in a lunch room course.

OUTLINE OF THE CONTENT OF SPECIAL METHODS COURSES FOR STUDENTS PREPARING TO TEACH HOME ECONOMICS¹

LOUISE STANLEY

University of Missouri

- I. Study of function of a course in teaching in home economics.
 1. Point of view of
 - (a) Prospective teachers.
 - (b) Those already teaching.
 - (c) Those engaged in training teachers.
 2. Relation to observation work.
 3. Relation to practice teaching.

¹ Presented at the Conference of Home Economics Teachers Employed in Land Grant Colleges November 17, 1916, Washington, D. C.

- II. Function of home economics courses in school.
 - 1. Reasons usually given for teaching.
 - 2. Study of function—intrinsic and indirect.
 - 3. Value of clear appreciation of intrinsic function.
 - 4. Means of connecting more closely with home.
- III. Logical organization of material of home economics.
- IV. The place of the project in home economics teaching.
- V. Home economics in schools of different types.
 - 1. Study of place and function in
 - (a) Rural school.
 - (b) Elementary school.
 - (c) High school.
 - (d) Normal school.
 - (e) College.
 - (f) Vocational school.
 - 2. Effect of differentiation in function on presentation of the lesson and the subject matter presented.
 - 3. Effect of differentiation of function on organization of the course.
 - 4. The project as a teaching unit.
- VI. The high school course.
 - 1. Review of intrinsic function in high schools.
 - 2. Organization.
 - (a) Number of units.
 - (b) Specialized or unspecialized.
 - (c) Logical organization of subject matter.
 - 3. Presentation of individual lesson.
 - (a) Value of logical outline for course and daily plan.
 - (b) Value of clear conception of intrinsic function of each lesson.
 - (c) Psychological as opposed to logical presentation of lesson.
 - (d) Necessity for logical summary.
 - (e) Place of drill and illustrative experiments.
 - 4. Use of the project in the high school.
- VII. Cost and arrangement of equipment.
- VIII. Laboratory management.
- IX. Demonstration work—place in teaching.
- X. Selection of a text book, and reference material.
- XI. The use of illustrative material.

XII. Vocational training in home economics.

1. Place of vocational training.
 - (a) High school.
 - (b) Continuation courses.
2. Type of courses.
 - (a) Homemaking.
 - (b) Home economics training of industrial application.
3. Organization of courses.
 - (a) Theoretical courses demanded.
 - (b) Amount and type of practical courses.

THE MODERN HOME

Some people have the idea that the apartment house is going to destroy American home life, but when one considers that all recent investigation has shown that the health of city children is better than that of their sisters and brothers in the country; that the sanitary conditions are better and that their food is more healthfully cooked, he must come to the conclusion that even an apartment house is rather an admirable place in which to live. The socializing and institutionalizing of families is nothing to dread. The "good old-fashioned American home," I am afraid, is going to disappear. . . .

The position of wife ought to be such that it would develop professional spirit by which intercourse could be had with those engaged in the same tasks. But more than anything else she should see how her work is related to the larger life of the people and the nation. . . .

There is a great field for the study of household decoration. To be a specialist in clothes is a delightful field. But greater even than these is the spiritual and ethical uplift, enlarging and enriching the lives of the family, that a modern mother has leisure to give.—*From President George Vincent, at Chautauqua Woman's Club, 1916.*

LOSSES OF IRON IN COOKING VEGETABLES

KATHARINE BLUNT

University of Chicago

AND

FLORENCE A. OTIS

College of Emporia, Emporia, Kansas

Of the many published analyses of vegetables giving the iron content, most are on the raw substance, not the cooked. Further, with one slight exception,¹ the several important studies^{2, 3, 4} on losses in cooking vegetables have not included iron. Because of the importance of iron in the diet, and the habit some dietitians have of computing the amount of iron in the cooked food from the published percentages for the raw, regardless of the method of cooking, it seemed desirable to determine some iron losses. Spinach, string beans, navy beans, fresh peas, potatoes were the vegetables chosen. These were cooked in considerable water, the water drained off, and the iron determined in the raw and in the cooked food and in the cooking water.

Before presenting our experimental work it may be worth while to speak of the great variations found in the literature in the iron content of some of these substances. Spinach especially shows a great range: Sherman,⁵ 0.0032 per cent; Czadek,⁶ 0.0033 per cent; Serger,⁷ 0.0095–0.0212 per cent; Haensel,⁸ 0.024 per cent. Some of these investigators report their analyses in terms of percentage of the dry substance, but for convenience of comparison we have recomputed them here to percentage of the whole spinach, using 9 per cent solids as a fair average. Czadek⁶ was able by use of iron-containing fertilizers to raise the iron of his spinach from 0.0033 to 0.026 per cent—an almost eight-fold

¹ Haensel, *Biochem. Z.*, 16, (1909), p. 18.

² Berry, *Jour. Home Econ.*, 4, (1912), p. 405.

³ Williams, *Jour. Amer. Chem. Soc.*, 26, (1904), p. 252, and 29, (1907), p. 574. *Jour. Ind. and Eng. Chem.*, 5, (1913), p. 653; *Chemical News*, 113, (1916), p. 145.

⁴ Snyder et al., U. S. Dept. Agr. Off. Exp. Sta. Bul., 43, (1897).

⁵ Sherman, *Food Products*, New York, 1914.

⁶ v. Czadek, *Z. landw. Versuchswesen Österreich*, 7, (1904), p. 65. Quoted by König, *Chemie der Menschlichen Nahrungs-und Genussmittel*, III, 2, 838, Berlin, 1914.

⁷ Serger, *Pharm. Z.*, 51, (1906), p. 372.

⁸ Haensel, *Biochem. Z.*, 16, (1909), p. 9.

increase. Potatoes vary from 0.0013 per cent (Sherman⁵ and Bunge⁹) to 0.0076 and 0.0132 per cent (Haensel⁸).

METHOD OF DETERMINATION OF IRON

Of the various ways of determining iron the commonest—the gravimetric methods and the permanganate titration—are not sufficiently sensitive unless very inconveniently large quantities of vegetable are used. For instance, 100 grams of spinach contains about 3 mg. of iron, and this quantity requires only 1 cc. of N/20 potassium permanganate for titration. The colorimetric method with potassium thiocyanate is much more satisfactory, for the red color of the ferric thiocyanate solution is so intense that it is visible in extreme dilution and slight variations in its intensity can readily be detected. We therefore have used this method. In employing it, it is necessary to have a standard of known iron content. This was prepared for our work by dissolving 0.10 gram of iron wire (99.9 per cent pure) in 5 cc. each of concentrated hydrochloric and nitric acids, and making up to 2 litres. One cubic centimeter of the resulting solution contained 0.05 mg. of iron, or 0.00005 gram. Amounts of this standard, ranging from 0.5 cc. to 4 cc. and differing by 0.25 cc. were put into 100 cc. graduated flasks, a few drops of acid and an excess of potassium thiocyanate added, and the whole made up to the mark. Standards were thus obtained of varying intensities of the red color of ferric thiocyanate, ranging in iron content from 0.025 to 0.2 mg. Quantities that differed from each other by as little as 0.01 or 0.02 mg. of iron could be distinguished. It is essential here and with the solution of the vegetable that an excess of the potassium thiocyanate be used. Otherwise the maximum intensity of red will not be reached, the color will fade, and certain other ions may interfere with the reaction. There must be at least twelve times as many grams of potassium thiocyanate as ferric chloride to produce the maximum color,¹⁰ even when the two substances are together in purity. With too small amounts of thiocyanate in the presence of various other ions, such as phosphates, the color reaction may be completely prevented.¹¹

In preparing the vegetable for comparison with these standards organic matter had of course first to be destroyed. Simple ashing by direct ignition is possible, but if chlorides are present the process may involve loss of iron because of the volatility of ferric chloride. Ashing at fairly low temperature with occasional addition of a few drops of nitric acid is quick and probably

⁵ v. Bunge, *Z. Biol.*, 41, (1901), p. 155.

¹⁰ Curtman and Harris, *Jour. Amer. Chem. Soc.*, 38, (1916), 2622, and Kruss and Moraht, *Ber.* 22, (1899), 2056.

¹¹ With excess of thiocyanate we have not observed the irregularities found by Nottbohn and Weiszwanke, *Z. Nahr-Genussm.*, 23, (1912) p. 514, in their work on iron in milk ash. Adding varying amounts of phosphate to our standards had no effect upon the red color.

safe. We checked our results on the beans by this method, but in most of our determinations we oxidized in the "wet way." A convenient amount of the vegetable (from 2 to 10 grams) was weighed into a large evaporating dish or a small Kjeldahl flask and oxidation started by heating with a small amount of concentrated sulphuric acid. When the contents of the dish or flask were well charred, a small amount of nitric acid was added and heated until the brown oxides of nitrogen had disappeared and the white fumes of sulphuric acid were given off. This addition of nitric acid was repeated until the liquid in the dish was not charred when the white fumes appeared. This indicated that oxidation was completed, but to insure this point the solutions were boiled for twenty or thirty minutes longer. After cooling this strongly acid solution, it was diluted to about twice the volume, boiled to remove any combined nitric acid, again cooled and a few drops of nitric acid and an excess of potassium thiocyanate added. The whole was made up to 50, 100, 250, or 500 cc. according to the intensity of color expected. All or part of this was poured into Nessler tubes and matched with one of the standards. Occasionally a brownish color was obtained instead of the pure red. This was apparently due either to using too little sulphuric acid and having a brown compound from the excess of nitric in the concentrated liquid, or to not boiling away the nitric on dilution.

PREPARATION OF MATERIAL FOR ANALYSIS

In cooking the vegetables, 5 to 10 grams of the raw material and 25 to 75 cc. of distilled water were boiled in a covered beaker for twenty to forty minutes, or in the case of the navy beans for two hours. The cooked vegetable was drained through a small aluminum sieve or tea strainer. The raw and the cooked vegetable, and the residue from the cooking water after evaporation, were analyzed according to the method described. In the majority of cases at least four checks were made for each part of the experiment. Of the potatoes, because individuals are known to differ considerably in composition,¹² seven were scraped, washed in distilled water, grated and mixed. Four small samples of this uniform pulp were taken for analysis. The cooked potatoes were treated in much the same way, seven being scraped and cooked together, then weighed, riced and well mixed, and four samples taken. The cooking water was of such an inconvenient quantity that it was evaporated to 200 cc., divided into four parts and analysis carried out as usual.

¹² Jones and White, Vermont Agr. Exp. Sta. Report, 1901, p. 209.

RESULTS

The results of the experiments are given in the following tables. To avoid repetition, the details of the computation for spinach alone will be tabulated, and the other vegetables given more briefly. Table 1 gives the figures for the iron in raw spinach, table 2 for cooked, and table 3 for the cooking water as actually observed and as computed by subtracting the quantity of iron in the sample of the cooked from that in the raw. The percentage of the total iron of the spinach lost by this

TABLE 1
Raw spinach

SPINACH TAKEN	QUANTITY OF STANDARD MATCHED	IRON IN STANDARD MATCHED	IRON PER 100 GRAMS RAW SPINACH
<i>grams</i>	<i>cc.</i>	<i>mg.</i>	<i>mg.</i>
2.0	1	0.05	2.5
3.0	1	0.087	2.9
4.0	2	0.1	2.5
Average.....			2.6

TABLE 2
Cooked spinach

(Oxidized material made up to 250 cc. Therefore reading of standard multiplied by 2.5)

RAW SPINACH TAKEN	COOKED SPINACH OBTAINED	STANDARD MATCHED	IRON IN STANDARD MATCHED \times 2.5	IRON PER 100 GRAMS COOKED SPINACH
<i>grams</i>	<i>grams</i>	<i>cc.</i>	<i>mg.</i>	<i>mg.</i>
10.0	9.3	1	0.13	1.4
10.0	8.4	1	0.13	1.5
10.0	8.3	1	0.13	1.5
10.0	8.1	1	0.13	1.6
Average				1.5

TABLE 3
Cooking water from spinach

IRON IN RAW SPINACH TAKEN	IRON IN COOKED SPINACH OBTAINED	IRON IN COOKING WATER, COMPUTED	IRON IN COOKING WATER, DETERMINED	PERCENTAGE OF TOTAL IRON LOST	
				Computed	Determined
<i>mg.</i>	<i>mg.</i>	<i>mg.</i>	<i>mg.</i>	<i>per cent</i>	<i>per cent</i>
	0.13	0.13	0.09		
	0.13	0.13	0.09		
	0.13	0.13	0.15		
	0.13	0.13	0.11		
Average 0.26	0.13	0.13	0.11	50	43

process of cooking is thus 50 by computation and 43 as actually found in the water—nearly half of the total iron.

The difference between the percentage of iron lost computed by subtracting the quantity in the cooked from the quantity in the raw (50 per cent), and the amount actually found in the cooking water (43 per cent) indicates considerable error. It is largely due to the fact that in working with such minute quantities of iron a fairly high percentage of error is unavoidable. We believe that since several determinations were made for every raw and cooked vegetable, the average is fairly accurate.

TABLE 4
Milligrams of iron per 100 grams raw and cooked vegetable

SPINACH		STRING BEANS		NAVY BEANS		FRESH PEAS		POTATOES	
Raw	Cooked	Raw	Cooked	Raw	Cooked	Raw	Cooked	Raw	Cooked
2.5	1.4	1.0	0.6	7.0	1.6	2.7	1.4	0.9	0.9
2.9	1.5	1.2	0.5	8.7	1.7	2.4	1.4	1.4	0.8
2.5	1.5	1.2	0.4	8.7		2.7	1.3	1.2	0.9
	1.6	1.0	0.5	9.0		3.0		1.1	0.9
				7.5					
Average 2.6	1.5	1.1	0.5	8.2	1.7	2.7	1.4	1.1	0.9

TABLE 5
Losses of iron in cooking vegetables

VEGETABLE	RAW USED	COOKED OBTAINED	IRON IN RAW	IRON IN COOKED	IRON IN COOKING WATER		PERCENTAGE OF TOTAL IRON LOST	
					Com-puted	Deter-mined	Com-puted	Deter-mined
	<i>gram</i>	<i>gram</i>	<i>mg.</i>	<i>mg.</i>	<i>mg.</i>	<i>mg.</i>	<i>per cent</i>	<i>per cent</i>
Spinach.....	10.0	8.5	0.26	0.13	0.13	0.11	50	43
String beans. Sample 1.....	10.0	12.0		0.08	0.03	0.04		
" 2.....	10.0	11.8		0.06	0.05	0.05		
" 3.....	10.2	11.7		0.05	0.06	0.04		
Average.....	10.1	11.8	0.11	0.063	0.047	0.043	43	39
Navy beans.. Sample 1.....	5.0	15.4		0.25	0.16	0.13		
" 2.....	5.0	15.0				0.13		
" 3.....	5.0	14.4		0.25	0.16	0.13		
Average.....	5.0	14.9	0.41	0.25	0.16	0.13	39	32
Peas..... Sample 1.....	5.2	6.3		0.08	0.06	0.06		
" 2.....	5.5	6.2		0.09	0.05	0.05		
" 3.....	5.4	6.1		0.09	0.05	0.05		
Average.....	5.4	6.2	0.14	0.09	0.05	0.05	36	36
Potatoes.....	490.0	468.0	5.4	4.2	1.2	0.80	22	15

It is interesting to compare these losses with those of the magnesium and phosphorus as determined by Berry in boiling spinach. Of these minerals determined as magnesium oxide and phosphorus pentoxide were lost 60.38 per cent and 52.33 per cent respectively, and of the total ash 51.65 per cent—even greater quantities than in the case of our iron.

The preceding tables include the results with all the vegetables.

For convenience, the milligrams of iron per 100 grams raw and cooked vegetable are brought together in table 4. Of course as some of the vegetables lose weight in cooking and some gain, as shown in columns 2 and 3 of table 5, varying percentages of iron in the raw and the cooked give little indication of the actual quantity lost in cooking. The navy beans increase almost three times in weight in cooking, so that even if no loss in iron had taken place the percentage of iron in the cooked beans would be only one-third that in the raw.

More significant is table 5 giving computed and observed losses of iron for all the vegetables.

The vegetables all lost a large percentage of their iron. The loss was least for potatoes with their relatively small amount of surface exposed to the water, and most for spinach with its large surface, potatoes losing about a fifth of the total iron content, peas and beans between one-third and one-half, and spinach approximately one-half. These huge losses show clearly that the method of boiling vegetables in which the water is thrown away is highly wasteful of the important iron constituents.

NORMAL SCHOOL COURSES

Many bodies of teachers are gathered together from time to time to discuss not only their immediate and local problems but many broader principles of teaching or of administration. It seems of distinct advantage when the results of such conferences may be passed from one group to another. The following summary of the conclusions at the New England Conference of Home Economics Teachers, reported in our news column, may be helpful as a basis for similar discussion on the part of normal schools of other sections of the country.

SUMMARY OF DISCUSSIONS

1. The course given in the normal schools should be planned with a definite purpose in mind. This purpose may be one of the following: (a) The preparation of special teachers of home economics for the common schools of the state; (b) The preparation of rural teachers so that they may give lessons in home making or conduct a school lunch in addition to their work of general teaching; (c) The acquaintance of all normal students with the fundamental principles of home economics that they may recognize its place in the general school curriculum; that they may be able to coöperate intelligently with the special teacher of home economics; and that they may be prepared to undertake intelligently the task of homemaking.

Choice of subject matter and the relation of the course to other courses in the curriculum must be considered when planning the course.

2. Time should be allowed for a course of adequate length. Inadequate time allowance makes impossible the training necessary in the normal school. If special teachers of home economics are to be trained, a special course of two years is absolutely essential, and a course of three years is preferable. If the lessons are to prepare rural teachers for handling classes in cooking, sewing, and home making, a general or survey course of five periods a week should be required for an entire year. This course should include or be accompanied by observation and practice in the teaching of homemaking and the preparation of the school lunch in the rural school. The course offered the general student should also be a general course running through the year, five periods a week.

3. The entrance requirements for the course should be defined. This is particularly necessary to the success of the course for the special teacher. Entrance requirements may include scholarship, age, and the completion of previous grade or high school courses in homemaking. Recognition should be given the courses taken in the grades and high school.

4. It is especially necessary that a well-balanced short course be worked out. This course should include simple problems in homemaking, and the elementary study of foods, cookery, textiles, and sewing. It must include both laboratory practice and lecture periods.

FOOD WASTE OF ABOUT \$700,000,000

"For partial immediate relief, every individual and community should consider earnestly the matter of food conservation and the limitation of waste. As a nation we seem to have a disdain of economizing. In many homes there is a strong feeling that it is 'only decent' to provide more food than will be eaten and that it is demeaning to reckon closely. The experts of the Department of Agriculture report to me that the dietary studies made by them point to an annual food waste of about \$700,000,000. Even if the estimate were reduced by half, the waste would still be enormous.

"The food waste in the household, results in large measure from bad preparation and bad cooking, from improper care and handling, and, in well-to-do families, from serving an undue number of courses and an over-abundant supply and failing to save and utilize the food not consumed. As an instance of improper handling, it is discovered that in the preparation of potatoes 20 per cent of the edible portion in many cases is discarded."—*Secretary of Agriculture, March 3, 1917.*

PROPOSALS presented on April 16, 1917, by Dean Marion Talbot to the Women Students of the University of Chicago by means of which they may share in the defense and preservation of the Nation.

Pledge

Realizing that my country needs the loyal service of all its women, both now and in times of peace, I pledge myself to the tasks I have indicated on this sheet and I will undertake to perform these duties as conscientiously as if I were formally enlisted for military service.

1. I agree to make an effort to increase my physical strength and vigor.
2. I agree to help some young person to increase his physical strength and vigor.
3. I agree to wear a costume adapted to my occupation, avoiding waste and display.

4. I agree to promote economy in food supplies by (a) the observance of rational economy in my personal use of food; (b) organizing groups of women for the study of food economy.

5. I agree to foster the proper use of foods by learning how to prepare them.

6. I agree to aid in increasing the food supply by (a) personally cultivating a plot of land; (b) helping to organize groups of children to plant gardens in unoccupied lots.

7. I agree to take an active part in some organized movement for the prevention of infant mortality.

8. I agree to take an active part in a child-welfare agency.

9. I agree to inform myself as to approved methods of school nursing and to do all in my power to introduce this means of conserving the health of children into the schools of my community.

10. I agree to help provide for the children and dependent members of the family of a man or woman "at the front" in war or industry.

11. I agree, realizing that vice and alcoholism in increasing measure accompany war, and believing that future generations should be given by birth the best in health and mind that ethical living among men can bestow, to urge that marriage should take place only among those who can show that they are free from any disease which may be transmitted to future generations.

12. I agree to establish friendly relations with persons whose families came to this country more recently than mine, and in this and every possible way to help promote a feeling of international sympathy.

13. I agree to study the various proposals which have been brought forward for the establishment of a Society of Nations and organized common peace and to do all in my power to build a new social order based, not on mutual distrust and selfish competition, but on confidence and good-will, upon the spirit of service and coöperation.

14. I agree, provided my scholarship and health are adequate, to register for one of the following courses, each to count as a half-major, and taken without fee:

I. *Household Administration 30: Social Service in War Time.*—Assistant Professor Breckinridge, Miss Bird, and Assistants. $\frac{1}{2}$ Mj. Monday, 4:00–5:50. Field work to be arranged.

II. *Home Economics 50: Food: Conservation and Production.*—Assistant Professor Van Hoesen and Assistants. $\frac{1}{2}$ Mj. Monday and Wednesday, 4:35. Laboratory to be arranged.

III. *Physiology 5: First Aid.*—Professor Carlson, Dr. Young, and Assistants. $\frac{1}{2}$ Mj. Monday and Wednesday, 4:30 to 6:00.

Indiana University,
Bloomington, Indiana.

To the JOURNAL OF HOME ECONOMICS:

During the next few months and perhaps for a longer period, there will be a great need for garments, bandages, and many other articles that will be distributed through the Red Cross Society of America. The women of the country are organizing in order to be of as much help as possible. Shall we teachers of home economics neglect our great opportunity to be of service? Why not organize all the textile and clothing departments in the universities and high schools and put ourselves at the disposal of the Red Cross Society in our vicinity? This work need not in any way interfere with the established courses carried on at present, for the students would learn the same principles in making a day shirt for a wounded soldier as they would in making a shirt waist for themselves, and in addition they would derive the benefit of doing something for others.

I am writing this hoping it may reach the JOURNAL before it goes to press and that it may persuade some teachers to start the work this summer. The Red Cross is very glad to assist in any way possible by sending patterns and specifications for garments and bandages. Let us not neglect our opportunities.

ELIZABETH SAGE,
Assistant Professor of Home Economics.

FOR THE HOMEMAKER

CLUB PROGRAMS IN HOME ECONOMICS

HELEN LOUISE JOHNSON

Unprecedented opportunities are presented to all home economics workers at the present time. This is as true of home economics departments in the clubs as it is of the home economics workers elsewhere.

We are confronted with the situation of an actual shortage in certain food supplies. This should be understood and realized in order that a sane and economic procedure may be advised and carried out. For when there is a shortage the only possible relief is through lessening the demand, and saving material.

There is a very great increase in the prices of many household necessities, and the conditions of war surrounding us do not promise an early relief from this pressure. We all need to realize fully that the conservation of every material resource is not alone an imperative need, but a patriotic duty. To teach how to use these resources to best accomplish this desired end falls upon those who have been educated, trained, and experienced in the economics of consumption. To give opportunity for such teaching is the part of the club women, who do represent the organized housewives of this country. And all of it, the teaching, preaching, leading, doing, must be done with extreme care. It requires a clearness of vision, and a sanity of method which will bring the right results. People are to be enthused and inspired to do the right things, but they must be most cautiously kept from doing the wrong. And the wrong are so easy.

The chairmen of home economics departments in the clubs should, if possible, induce the chairmen of other departments to unite with them in a real campaign of education which may not be too greatly interrupted by the summer vacation from club affairs. All of us are being asked to index or register ourselves in organization after organization springing up all over the country under the impetus of patriotic zeal. Much of it is real, but club women and others need to realize that all situations offer opportunities for the self-seeker and those with ulterior

ends in view to promote their schemes. This is the time to move with caution and wisdom, to know before one acts. There is too great a tendency to hurry to *do something* before all the circumstances are investigated and the results of such doing foreseen as clearly as possible.

Club women are already organized. There is no need of duplicating effort, or of wasting money, strength, and time in multiplying organizations. If each one of us has been registered and indexed in as many places and ways as have been presented, there must be millions of us ready to do all sorts of things for which most of us have had no training whatever.

Real preparedness for the events of war necessarily includes the homes of any nation. Europe has learned how to use her food and other supplies. And the moment has arrived when we also have to know these things. But we have to know them actually, not simply as rumors. We must seek the right sources of knowledge and information, and prophets must be raised up everywhere to impress upon the women of this country the extreme importance of their economic function and the need of learning to perform it successfully.

There are many of us, of course, who, with or without reason, have a degree of self-importance. Nevertheless, it is true that one of the most difficult things to teach women is the far-reaching influence of their every economic deed. That the way each spends her money has its impress upon the entire producing world seems too big a statement to be comprehended. But it is true.

The United States is not stigmatized as a spend-thrift nation because of the way Congress spends millions or billions extravagantly, or in ways which some deplore. It is because it is a spendthrift nation in its homes, and because it has failed to conserve carefully its great natural resources, forests, water, coal, oil, and other things. But now we have to forget the things we have done or failed to do, while we stiffen every moral fiber and learn the great lesson war teaches, that of self-sacrifice.

It is each woman's duty, it is her paramount business, to realize that the way in which her wealth is used assists or retards the progress of the country, therefore at this particular time she must learn to use all her resources in the right way, and spend her money for the right things.

When one reads the statement made at a recent convention of shoe manufacturers, that every inch added to the height of women's shoes adds a million dollars to their cost, it would seem that we might all

realize what it means to the consumer. Yet it has to be pointed out that this is one of the unnecessary ways in which the wrong choice has added to the cost of living. We pay the extra million dollars. The consumers always pay, and we all pay for the ignorance, the thoughtlessness, the selfishness, the ridiculousness of others.

The majority of housekeepers, even those many who are desirous of producing the best results in homemaking, and learning all they can of scientific management, need to see that their entire procedure is necessarily modified and directed by the economic laws many of them have never learned. Because they have not learned these they are too frequently kept from seeing their Business Big. Nor is theirs the only failure. Home economics teachers themselves are far too fond of dwelling upon details rather than results. Many neither teach nor preach the reason, the ultimate reason, for the study of nutrition, the chemistry of foods, the physics of heat, and the bacteriology of yeasts and molds. And if the women, careful, painstaking, conscientious as they may be, only see in their housekeeping the daily, often tiresome tasks of planning or cooking three meals a day, of keeping the house clean and tidy, buying the supplies and using them again, an endless round of liked or disliked duties, why should they crowd the assembly room on home economics day to learn about duties so tiresome to perform?

The fact is if they often will not come to a home economics lecture unless enticed by the kindergarten method of seeing some other woman prepare recipes which may give them new ideas of fancy dishes for company affairs, it is largely because we have failed to instill into the programs the interest which home economics so surely has. Now come war conditions, and the opportunity is ours. For, as surely as Europe has rolled up an appalling war debt, just so surely will economic pressure come upon us. It is already felt.

There is already a lessening of available agricultural products for our own use. Here are certain known facts. The annual consumption of wheat in the United States in the form of flour is approximately 5,000,000,000 bushels. Or, measured in barrels, the annual consumption of flour is a barrel per capita. The shortage of wheat last year and the demand upon us to feed our allies makes probable the reducing of our supply of flour below this barrel mark.

At once the necessity is forced upon us to know how to substitute other things, and this means that each of us must know the food value and the use of other grains and food materials, what may be substituted

for wheat flour, and what may not. For this very shortage is going to pave the way for unwise legislation, for wrong deeds and misrepresentations as to the value of mixed flours, and the use of wrong substitutes.

At the second Pan-American Scientific Congress held in Washington in December, 1915, Dr. Lafayette B. Mendel, Professor of Physiological Chemistry in the Sheffield Scientific School of Yale University, presented a paper on Changes in the Food Supply and Their Relation to Nutrition, which has since been issued in book form by the Yale University Press. I wish to quote from that paper, because all of it bears so fundamentally upon our present food problem.

The development of commerce among nations having adequate means of communication has rendered the distribution of food materials easy and developed a sense of security (under normal conditions) against failure of food supplies. The growing organization of transportation facilities has encouraged the introduction of dietary changes never thought possible or even contemplated a few generations ago. Incidents associated with the altered distribution of wealth have improved the nutrition as well as other conditions of living among that large group of our population which has been termed the "healthier well-to-do classes."

The supply of food energy and its availability where needed are inter-related closely with a variety of factors, the bearing of which upon the problem at hand is not always evident upon the surface. Some of these features may be classified superficially as follows:

1. Food production.
2. Food preservation and food conservation.
3. Transportation facilities.
4. Customs in diet.
5. Changing industrial and social conditions, and other economic and hygienic factors.

This seems to indicate a program of study or investigation of extreme need and very great interest at just this time. In order that we may unite in learning how to use our food stuffs we must first know the common facts about them, such things as necessarily affect both the cost and the price. For instance, some months ago when I was speaking in a Middle West city, a woman in the audience asked "Miss Johnson, when are tomatoes in season here?" And she actually did not know. Tomatoes were in the market all the year. Their price varied, but it was reaching a sort of level, a mean between the previous extremes of the high prices of winter and the low ones of early fall.

Would it not be a wise plan for each community to call its women's clubs together, and organize a sort of self-educating conservation movement? There are available sources of actual knowledge in every village, city, or town. The grocer and the farmer, the dairyman and the butcher know the facts relating to the obtaining, selling, and distributing of the commodities they handle. These producers do not need investigating. They need sympathetic coöperation. Wherever it is possible to have real community meetings in which men and women could join together in a discussion of cost and price, and all the factors that govern these, it would create confidence, establish understanding, and undoubtedly assist in regulating conditions.

In order to regulate prices, housewives must learn what they do on their side to increase them, and how they may by concerted effort lessen some of this expense. This problem of the food supply is a matter of supreme importance, for physical efficiency is dependent upon it. And we must at this time learn how to buy and use all food stuffs to their best advantage. Getting the worth of one's money in foods means buying the most adequate nutrition at the lowest price. Yet that is not all there is to the home economics program. We hear so much about the cost of food we might be led to think it is the only household commodity that has risen in price. Even if this were so we would have more to spend on food if we knew how to spend less for other things.

This is the time to study the budget. It is the time to plan heart to heart conferences, not merely between Club members, but between those who grow and make things and those who buy and use them. Out of all this excitement, and agitation and hard times for many, good will come, if we use the opportunities presented to learn how to live simply, properly, and well.

The scientists in the Nutrition Division of the Department of Agriculture have already sent out much data on how to select foods so as to insure a proper diet. They are endeavoring to give the greatest assistance possible in a crisis. This material is intended for the assistance of the homes of the nation, and those in the homes should learn to turn to the Office of Home Economics in that Department for it, and to depend upon it.

Not long ago I heard a teacher of home economics in a certain school say that the chief difficulty they had with the girls was, "But I don't like it." The students would submit plans for meals, and the need of adjustments would be shown, to meet with the reply, "But I don't like

it." Or it would be said, "You should not put these things together," and the answer comes, "But I like it."

This is typical of an attitude not confined to youth alone that indicates a softening of moral fiber, a lack of the resistance bred of self-control and self-sacrifice. There are many things we do not like which we have to accept or bear. There are others we like which we must go without. If we are to really economize, to live within our means in such a way as to conserve the country's resources, and this is a definite way in which we may give loyal, valiant service, we must begin by learning to like things, and to do without some we have liked. It won't hurt us. It will be good for us. Only it must be done not with a martyr's zeal, but with the educated common sense which selects and chooses.

Home economics programs should be formed on the basis of studying values, of learning the community's needs, of investigating household wastes, and knowing the facts on both sides of the counter. There are things to do, many of them. One of the great things is to assist in promoting the home garden movement. If we all grow things to eat, we will have more of them. But do not, oh, do not let the agitator agitate us. And let us fully realize that patriotism like charity begins at home.

GOOD FOOD IS WASTED:

If it gets into the garbage pail.
If allowed to spoil in the home.
If ruined by careless cooking.
If carelessly pared and trimmed.
If too much is served at a meal.

DEMONSTRATE THRIFT IN YOUR HOME

Make Saving, Rather than Spending, Your Social Standard.

THE RELATIVE NUTRITIVE VALUE OF OLEOMARGARINE AND BUTTER

Several questions have arisen in regard to the relative nutritive value of oleomargarine and butter. The following questions were sent to Dr. McCollum, of the University of Wisconsin, whose article was quoted in the December, 1916, JOURNAL.

First. Does oleomargarine contain any of the "Fat Soluble A¹ substance?"

Second. If so, does it contain enough so that it can replace butter in the diet?

Third. Is there any possible objection to its use as a butter substitute provided whole milk, eggs, and meat form part of the diet?

Fourth. If not desirable to substitute it wholly for butter, to what extent might this be done?

His reply follows:

Oleomargarine does contain some of the fat soluble A. This is true for two reasons. There is a small amount of this in the body fat, especially of the herbivora which eat a large amount of the leafy portion of the plant, this part being much richer in fat soluble A than is the seed. As Osborne and Mendel have shown, when beef is melted and allowed to partially crystalize the oil is greatly enriched in the dietary substance in question, whereas the crystals which are filtered off do not contain it. This oil is the basis of the production of oleomargarine.

The body fats of animals are usually churned with milk in the preparation of oleo. I have recently found that approximately half of the fat soluble A in milk is in the fat and half in the fat free portion, that is, it is about thirty-three times as soluble in fats as in water. In the process of churning, the animal fat will pick up a little more of this constituent from the skim milk. Experiments which we conducted a year ago show that 3 per cent of butter fat furnishes the minimum supply of this factor for normal growth in young rats. In comparable experiments 10 per cent oleo was the minimum which would serve this purpose. This answers the first and second questions.

Regarding 3, I see no reason why oleomargarine should be condemned as a dietary constituent, provided the things enumerated are included in the diet. Doubtless many brands of butter substitutes are perfectly wholesome food products.

In the light of what I have said a specific answer to the fourth question is not necessary.

¹ See Jour. H. E., Dec. 1916, pp. 664-666—An Adequate Diet; also Feb., 1917, p. 90.

SOME THINGS TO DO AND SOME NOT TO DO

The present indications are that there is to be a shortage of cereals so that not only every slice but every crumb of bread should be saved "for the safety of the nation," not merely because of the result of saving on the pocket book of the consumer.

There is to be a scarcity of all commercially canned goods. Every housewife should save every particle of perishable fruit and vegetable food and either can or dry it. Cans, either tin or glass, will be difficult to obtain and old fashioned drying of fruits and vegetables should again be practiced. This applies not only to the country with its surplus of food materials, but to the city housekeeper as well. Unused stalks of celery and celery leaves may be dried in the oven or over the radiator and kept for soup or for seasoning, and the same thing is true of many other vegetables.

Save all fats. We are now importing large quantities of butter. Even cottonseed oil has a greatly lessened production on account of the boll weevil.

The Departments of Agriculture in the New England and Middle States are urging the farmers not to kill young animals. If housekeepers will refrain from buying veal and young lamb the farmers will not send them to market.

There is a shortage of paper. Do not burn soiled rags but wash them and sell for paper rags, "not for the personal gain but because of the nation's needs." City people very generally send out the waste papers and rags chiefly because they have no way to burn them, but country people often burn or throw them out to decay. See that they are used. Values have changed. The shortage of material outweighs the labor involved.

Save every particle of old linen, sheets, and white goods because of the need of these in all hospitals.

Woolens will be absolutely out of the market by fall. Plan to remake and extend the usefulness of the family's fall and winter clothing.

Save your shoes and wear them longer and so help prevent a shortage of leather.

Do not lay in a stock of food material beyond your needs. The buying up of large quantities will only tend to raise prices. If there is to be a shortage of any particular material go without it if you can. Some one else may need it more.

There has never been so good an opportunity to teach and practice care of clothing that it may last longer, saving of food material that there may be enough for all. The woman who has hesitated to enforce the economical use of materials in her household for fear of the misjudgment of her liberality may now realize that what once was household efficiency has become a national duty, and she will meet a response from family and employee.

DO YOUR BIT

President Wilson issues the following appeal to all the people of the nation urging them to join the great service army.

To FARMERS.—Increase the production of your land and coöperate in the sale and distribution of your products.

To MEN AND BOYS.—Turn in hosts to the farms to help cultivate and harvest the vast crops imperatively needed.

To MIDDLEMEN.—Forego unusual profits and “organize and expedite shipments of supplies.”

To RAILWAY MEN.—See to it that there shall be no “obstruction of any kind, no inefficiency or slackened power” of the “arteries of the nation’s life.”

To MERCHANTS.—Take for your motto, “Small profits and quick service.”

To SHIPBUILDERS.—Speed construction of ships, for “the life of the war depends upon” you.

To MINERS.—If you “slacken or fail, armies and statesmen are helpless.”

To MANUFACTURING MEN.—“Speed and perfect every process,” for your “service is absolutely indispensable” to the nation.

To GARDENERS. By creating and cultivating gardens you can help “greatly to solve the problem of feeding the nations.”

To HOUSEWIVES.—ELIMINATE WASTEFULNESS AND EXTRAVAGANCE.

To EDITORS AND ADVERTISING AGENCIES.—Give widespread circulation and repetition to this appeal.

LOSSES IN COOKING VEGETABLES

The results given in the article in this number (p. 213) on losses of Iron in Cooking Vegetables are of as much interest to the housekeeper as to the teacher.

Potatoes, pared before boiling, lost into the water in which they were cooked about one-fifth of the iron they contained; peas and beans lost from one-third to two-fifths, and spinach one-half of the total amount present. This variation is because of the relative amount of surface exposed in the different vegetables.

The amount of iron in our foods is small. Its importance to the body is great. We should conserve it to the greatest possible extent. To do this we should either steam our vegetables or use the water in which they are cooked. If potatoes are to be boiled and the water thrown away, they should be boiled "in their jackets."

So far as potatoes are concerned, with the present scarcity, the waste necessarily involved in paring before cooking should be eliminated.

SOME HELPFUL BULLETINS

Send to the Department of Agriculture, Washington, D. C., or to your representative or senator for Farmers' Bulletin 808, How to Select Foods, I. What the Body Needs. Send also for Farmers' Bulletin 391, Economical Use of Meat in the Home. Farmers' Bulletin 487, Cheese and Its Economical Use in the Diet. Send to the Superintendent of Documents, Washington, D. C., for Department Bulletin 469, Fats and Their Economical Use in the Home, (Price 5 cents).

A BABY WEEK EXHIBIT

The National Child Welfare Exhibit Association is offering a Parcel Post Exhibit on Healthy Babies and Healthy Children. This would be of great service in connection with baby week celebrations. It could afterwards be made available for Women's Clubs, Health Conferences, Church Societies, Parent Teacher Associations.

It may be obtained from the headquarters 70 Fifth Avenue, New York City.

STUDENTS' CONTRIBUTIONS

There is still a prevailing opinion, even among educated people, that high school work in home economics means nothing more than the teaching of cooking and sewing.

The following paragraph written by a sixteen year old high school senior in her first year of home economics work shows that in this school, at least, there are other aims in view.

This was written as a theme for part of an examination, after the quotation from Miss Arnold in the November number of the JOURNAL had been given to the class, with questions upon it.—The Editor.

HOME MANAGEMENT

ALTA BOYLEN

High School, Pendleton, Oregon

No woman can rightly or wisely administer a home unless she has a clear sense of proportion. By proportion we mean the ability to distinguish the important duties from the unimportant duties. A woman who spends her time fretting about the unimportant things in a home will never become an efficient administrator of that home. While I think that keeping the house clean is of importance, I do not think that it is of as much importance as keeping the minds and ideals of the family pure and clean.

The thing which is always and forever essential should be perfectly clear to her. She should know what influences tend toward the betterment of home life and should plan her work accordingly. She should know that the essentials of any home are: system, godliness, and hospitality.

The tricks, fashions, and devices which add to our conveniences should be brought to their proper places in our thinking. We should not grow into the habit of thinking and wondering all the time what new device we can buy which will make our life easier, but we should plan how to use what we have. We should not deem it necessary to purchase every little bauble which we think will add to our comfort; in many cases these things are not of much help after we buy them.

The home is for the citizens of our country. It is the place where the children should learn the right principles of life; where they should get

the training which will enable them to go out and grapple with the problems of life. The homes of the people are the foundation of the strength of our national government and should be built upon a solid basis of truth and righteousness.

The home should be refined. If the children do not learn refinement in the home, where will they learn it? The atmosphere of the home should be one of restfulness and simplicity. It should be tastefully furnished with many good books and pictures which will stimulate the minds of the children to think along educational lines. It should be orderly and systematic. This will incite the children to think along these lines. If we live in a disorderly house our minds soon become disorderly and we cannot think clearly on the problems which are sure to confront us all through life. It should also care for the physical development of the child, and see that he gets the right principles and training in health and sanitation.

In short it should minister to him physically, mentally, and morally.

A STUDY OF AMOUNTS SPENT FOR FOOD MATERIALS

This study was carried on by Miss Ruth Sweat, '16, Montana State College, Bozeman, Montana, among fourteen faculty families beginning February 27, 1916, and ending May 15, 1916, for the purpose of obtaining information concerning:

1. The amount of money spent for food materials;
2. The percentage of the total food expenditure spent for each class of food materials;
3. The variations of expenditure in the families with children and in the families without.

It will be seen from the tables below that the largest item in the majority of cases is in the dairy column, especially where there are children in the family. The greatest variance is in the meat. In one case the meat expenditure is five times as large as in another, with the same number in the family.

The percentage spent for fruit and cereals was higher in the families with children, while the vegetable expenditure ran much higher in the families without children.

Weekly average expenditure for each food material

FAMILY	NUMBER OF ADULTS	NUMBER OF CHILDREN	AGES OF CHILDREN	MEAT	EGGS	DAIRY	FRUITS	CEREAL	VEGETABLES	NUTS	FATS	SWEETS	MISCELLANEOUS
A	3			\$0.78	\$0.63	\$2.28	\$1.30	\$0.73	\$0.68	\$0.07	\$0.12	\$0.54	\$0.51
B	2	1	Under 1 yr.	Left	at the	end	of the	third	week.				
C	2			.50	.26	1.48	.31	.86	.51	.037	.07	.74	.17
D	2	2	7, 13,	1.32	.50	1.72	1.00	.72	.56	.22	.008	.98	.87
E	3	2	2½, 4½,	2.14	1.09	3.08	1.36	1.27	.77	.21	.40	1.73	.58
F	3 for 8 wks. 2 for 12 wks. 4	2	Under school age	2.50	.51	1.94	.76	.65	.80	.11	.000	.84	.47
G				1.73	.48	1.82	.64	1.25	.75		.36	.69	.31
H	2	1	4½	1.29	.54	.83	.50	.74	.60	.000	.187	.07	.36
I	2	2	8, 11,	1.38	.89	1.79	1.23	.71	.90	.17	.09	.30	.50
J	2			1.01	.52	.91	.38	.32	.43	.000	.10	.26	.65
K	2		3-12, 14, 15	1.88	1.08	1.98	1.75	1.08	1.12	.33	.19	1.08	.65
L	2			.97	.39	.63	.43	.49	.42	.09	.11	.38	.82
M	2	1	9 mos.	Data	not c	omple	te eno	ugh t	o use.				
N	5	1	6	2.56	1.17	2.41	1.53	1.31	.82	.10	.43	.97	.68

Percentage spent for each food material

FAMILY	NUMBER OF ADULTS	NUMBER OF CHILDREN	AGES OF CHILDREN	MEAT	EGGS	DAIRY	CEREALS	FRUITS	VEGETABLES	NUTS	FATS	SWEETS	MISCELLANEOUS
				per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent
A	3			10.0	8.3	29.7	9.5	17.0	8.0	0.009	1.5	7	6.7
B	2	1	Under 1 yr	Left	at the	end	of the	third	week				
C	2			10.0	5.5	29.9	17.3	6.0	10.0	0.007	1.0	14.9	3.2
D	2	2	7, 13,	16.5	6.3	21.5	9.0	12.4	7.0	2.0	0.001	12.3	10.0
E	3	2	2½, 4½,	17.0	8.0	24.0	10.0	10.0	6.0	1.7	3.2	13.0	4.6
F	2 for 12 wks. 3 for 8 wks. 4	2	Under school age	29.0	5.95	22.55	7.64	8.9	9.29	1.3		9.82	5.46
G				21.6	5.9	22.7	15.6	7.1	9.4		4.5	8.6	3.8
H	2	1	4½	24.5	10.3	15.7	14.1	9.4	11.4		3.5	1.3	6.8
I	2	2	8, 11,	17.0	11.0	22.0	8.8	15.0	11.3	2.0	1.1	3.7	6.0
J	2			22.0	11.0	19.0	7.0	8.0	9.0		0.1	5.0	14.0
K	2	3	12, 14, 15,	16.9	9.7	17.8	9.7	15.7	10.7	2.9	1.6	9.7	5.8
L	2			20.4	8.3	13.3	10.2	9.1	8.7	1.9	2.2	7.9	17.2
M	2	1	9 mos.	Data	not c	omple	te eno	ugh t	o use				
N	5	1	6	21.3	9.8	20.1	10.8	12.8	6.8	0.97	3.6	8.1	5.7

EDITORIAL

The Cost of Living and the Present Crisis. A few weeks ago the cost of living was occupying a large part of the attention of the housekeeper. How to spend less money and still have adequate food, shelter, and clothing, and how to best distribute the amount to be spent were her serious problems. In a moment her whole point of view changed. The question today is not the saving of money but the conservation of resources. It is alike necessary for the rich and the poor. If one has enough money it is of comparatively little account how many purchases be made of luxuries or of materials of which there is a plentiful supply, but it is a very important matter that only the most necessary amounts be bought of materials of which there will probably be a shortage. It is as important for the richest person in the country to save waste in wheat, in potatoes, and in similar food materials as it is for the poorest.

There has perhaps never been so great an opportunity for the teacher of home economics to gain a hearing; there has never been a time when it is so inexcusable for her in class room work to use materials carelessly or wastefully. No amount of precept will take the place of practice. Attention even to minor details of saving must be hers.

If the public school teacher can impress upon her school children that the saving of material is a service to the country, and that it is just as important as the production of more material, she may be able not only to help in the present crisis but perhaps become a large factor in inculcating habits of thrift that will be of far greater value than any manipulation of materials the children might learn.

Not only the teacher of food but the teacher of sewing has this opportunity. If woollen materials are to be short this gives reason for emphasizing the repair and the care of such materials.

It is in these simple and humble ways quite as much as in the more spectacular ones that real service may be given. In the President's call for service to different groups of people perhaps none is more needed than that to the housewife—"Eliminate Waste."

Conservation of Effort. While we are planning carefully the conservation of food and other materials we should be at least equally careful to conserve effort. With the desire on the part of everyone to contribute in every possible way to the nation's need there is danger of useless duplication of effort, of lack of coöperation, of fruitless repetition of work that has already been done, and possibly of unwise competition. While it is true that many may be reached by one type of organization that would not be touched by another, there should be careful coöperation, not working at cross purposes.

In some of the public school systems the good suggestion has been made that a series of leaflets on conservation of food be prepared and distributed to the homes through the children. In some places teachers already over-worked are asked to prepare such circulars. Might it not be possible to take the Food Thrift series of articles sent out by the Department of Agriculture and use these, with such slight adaptation as would be necessary, rather than to undertake to prepare in a limited amount of time a wholly new series? Prepared by experts, with authoritative sources of information directly at hand, these presumably will be better than those prepared in haste, without such resources. The letters sent out by the Children's Bureau might also well be used.

A New Committee of the Association. It seems appropriate that the American Home Economics Association should have followed up the offer of its services to the government by the appointment, through the Council, of an Emergency Committee to act in an advisory capacity to any one needing help in our special field.

Miss Isabel Ely Lord has consented to act as chairman, with Mrs. Annie Nathan Meyer, now chairman of the Home Economics Committee of the National Special Aid Society, as vice-chairman. The members of the committee have been chosen to represent different sections of the country, with the power to form local committees as needed.

An office of information in New York should help to show the many women not now reached in other ways, and to emphasize over again to others, how they may help the nation by wiser methods of administration in their own homes. The committee will plan to coöperate with the Department of Agriculture and with Mr. Hoover, the newly appointed Food Commissioner.

Members of the Committee: Isabel Ely Lord, Chairman; Mrs. Annie Nathan Meyer, Vice-chairman; Sarah Louise Arnold, Massachusetts; Edith Baer, Pennsylvania; Josephine T. Berry, Minnesota; Isabel

Bevier, Illinois; Charlotte Ebbets, California; Charlotte Ullrich, Ohio; Martha Van Rensselaer, New York; Mary Gearing, Texas; Caroline L. Hunt, Washington, D. C.; Abby L. Marlatt, Wisconsin; Effie Raitt, Washington; Mary E. Sweeney, Kentucky; May B. Van Arsdale, New York City; Louise Stanley, Missouri; Agnes Harris, Florida; Mrs. Henrietta Calvin, Washington, D. C.

Ex-officio members: Catherine J. MacKay, President; Mrs. Alice P. Norton, Secretary.

NOTICES

To the Members of the Institution Section of the American Home Economics Association:

Owing to the very unsettled conditions throughout the country at present, it has been decided by the Executive Committee of the Institution Section not to attempt to hold their meetings at Lake Placid Club, June 16 to 19, 1917.

The Committee regrets the necessity for taking this action, for the response has been a very hearty one, both from members, and others whom we have asked to take part in the program. The session as planned promised to be a very interesting one, but our hope is to present the subjects at another year's meeting.

The Committee has expressed heartiest appreciation of the invitation which had been extended by Mr. and Mrs. Dewey to meet at Lake Placid Club this year.

We shall appreciate it if the different members will pass on this word of the cancelled meeting to institution workers whom they may know.

Since the above letter was sent to different members of the Institution Section, the Committee finds that there will be two or three opportunities for helpful conferences for institution workers during the year. An endeavor will be made in the early part of the summer session at Teachers College to have a day or two given over to talks and round-tables on certain problems of interest to institution workers. It is possible that certain speakers may be obtained then who were scheduled for the Lake Placid Meeting. Also, a special program on lunch-room management is being arranged for a session at the General Meeting of the American Home Economics Association in August.

Another plan is under consideration,—that of having a conference of special interest to dietitians, as definite dietitian organizations have been formed in Boston, Chicago, New York and Philadelphia.

With some of these special conferences in mind, we feel that many of the institution members who regret the postponement of the meeting this year will be able to avail themselves of these conference opportunities.

EMMA H. GUNTHER,
Chairman of the Institution Section.

The meeting of the National Education Association is to be held July 7-14 in Portland, Oregon.

The American Home Economics Association will hold a session on either July 9 or 10, in connection with the meeting of the National Education Association. Miss Ava B. Milam, Oregon Agricultural College, Corvallis, Oregon, is chairman of the program committee. The other members of the committee are Mrs. Ellen Dabney, Miss Alice Ravenhill, Miss Lillian Tingle, Mrs. Edna Robbins, and Mrs. Mary Schenck Woolman. Suggestions for the program will be welcomed.

On July 6 and 7, just preceding the N. E. A., there will be a conference of supervisors in home economics in city public schools. Mrs. Calvin is in charge of the program and asks for suggestions as to topics of greatest interest, and as to difficulties encountered by those organizing and administering home economics departments.

The headquarters for the Association and the Conference will be the Seward Hotel. This has a rate of \$4 per day for two rooms with bath between, or \$6 for the two rooms if occupied by three people. Other rooms without bath but with hot and cold running water can be secured at a less rate.

The railroad rates have been fixed at \$55 round trip from Missouri River points, and \$67.50 from Chicago.

The National Conference of Charities and Corrections will be held in Pittsburgh, Pa., June 6-13. A preliminary program may be obtained from the headquarters of the Conference, 315 Plymouth Court, Chicago. An unusually large number of the meetings will be of especial interest to those who are working for the home.

Response has been received from a number of applicants to the offer of the JOURNAL in the April issue to act as a mediator between those

desiring summer positions and those desiring teachers. The letters are on file in the office at Baltimore and will be forwarded to any departments who wish to secure such services.

The following household account books have come to the attention of the Committee on Budgets since the list was published in the October, 1916, number of the JOURNAL, and they are now offered as a supplementary list.

The Personal Account Book, National Board, Y. W. C. A., 600 Lexington Avenue, New York City, \$0.10.

The Family Expense Book, Stewart & Kidd, Cincinnati, Ohio, \$0.35.

How Much Can We Save, E. R. Thoma, Olympia High School, Olympia, Washington, \$1.

The Economizer-Household Account Book, Otto A. Jeschien. Smith Bros., 472 13th Street, Oakland, California.

Thrift Through Household Accounting. Published for Ellen H. Richards Home Economics Fund American Home Economics Association, 1211 Cathedral St., Baltimore, Maryland, \$0.15. Fifty or more copies, ten cents each.

Lantern slides of some fifteen household account books have been prepared by the Committee on Budgets and can be purchased through the JOURNAL at 40 cents each; they will be found useful in class discussions and lecture work, as the account forms can thus be thrown upon the screen large enough for an audience to consider.

The Committee will be interested to have information in regard to other account books available. Please communicate with the chairman, Benjamin R. Andrews, Teachers College, New York City.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Control of Hunger in Health and in Disease.

By ANTON J. CARLSON. Chicago: University of Chicago Press, 1916. Pp. 319. \$2.00. By mail of the Journal, \$2.14.

The teacher of dietetics is constantly hampered by the fact that this is a subject upon which almost every one feels himself an authority to some extent at least. Few realize how widely at variance are "the dictates of experience" as promulgated in different sections of the country or by different persons in the same section; only a long experience in vain efforts at reconciling dietetic maxims reveals the disorganized state of the subject, even in scientific circles. One does indeed begin to feel that "mebbe it 'd be better, not to know so many things, than to know so many things that ain't so." Meanwhile the very men who, it would seem, should have the largest say in dietetics,—the physiologists and physiological chemists—are for the most part maintaining a discreet silence concerning many critical points.

Here is a book which deals, in thoroughly scientific fashion, with such questions as the following:

Are both *hunger* and *appetite* necessary to maintain proper nourishment of the body? Does either augment, or decrease, or occur independently of the other? Does the drinking of water increase or diminish appetite? hunger? Does it matter (in this regard) whether the water is cold or warm? Can alcoholic beverages inhibit hunger and at the same time increase appetite? What is the effect of acid, of alkaline reaction of foods, upon these two physiological phenomena? Is "appetite juice" really necessary to normal nutrition? Is

occasional starvation, or fasting, a beneficial hygienic measure, after all? How often should an infant be fed? What is the relation of hunger contractions to digestion contractions of the stomach? Is there such a thing as hyperacidity of the gastric juice? Is there any justification for the medical administration of pepsin? Are bitter tonics ever beneficial? What is the cause of the excessive hunger of pancreatic diabetes? of some hyperaemic conditions of the skin (mange in dogs)? What is the cause for lack of desire to eat, in fevers, acute infections, gastritis cases?

It is true that not always can categorical answers be given to such questions as the above. Yet it is to this sort of book,—the book whose author has critically sifted the available evidence,—that those of us turn, who find ourselves compelled, upon occasion, to give categorical answers to impossible questions from a general audience.

Professor Carlson and his associates and students at the University of Chicago have for several years worked upon various details and aspects of the questions, what is the hunger mechanism, how may it be controlled, what is the relation of hunger to appetite? They have made many observations and done much experimental work with an "Alexis St. Martin the Second," a Bohemian, who twenty years ago swallowed caustic soda, and subsequently suffered a closure of the esophagus such that he has since that time taken all food and drink through a gastric fistula. They have also very largely used the balloon method of studying stomach contractions; animals, normal men, men suffering from various diseased conditions, infants, have swallowed these balloons, and tracings have been re-

corded on revolving drums, showing activities of the stomach.

Doubtless it is true, that many of the points here discussed, will remain subjects of more or less controversy for some time to come. Yet the beginner in physiology who goes through the book with one finger between the pages of a medical dictionary, and the critical reader alike, can hardly fail to be impressed with the ingeniously planned, patiently collected, carefully correlated mass of experimental evidence presented in Dr. Carlson's book.

MINNA C. DENTON.

Food and Health. An elementary text book of home making. By HELEN KINNE AND ANNA M. COOLEY. New York: The Macmillan Company, 1916, pp. 312. \$.65. By mail of the Journal, \$.75.

A unique and most interesting book for use in elementary schools, especially in rural communities. The keynote is the relation of the child to the home, the relation of the school to the community, the general plan of the book being set forth in the opening sentence: "This is a story of the way in which the mothers and fathers, the teachers and pupils, and their friends in the township work together to make the broad valley in which they live truly a Pleasant Valley."

The six chapters of the book are:

1. An introductory chapter dealing with the functions of food expressed in simple language with illustrations that country children will understand.

2. Luncheon at school, including the consideration of the lunch box brought from home and the possibility of the preparation of food at school. Suggestions are given for simple equipment, making possible the serving of a hot dish each day, and for the management of a "lunch club" for that purpose.

Chapters 3, 4, and 5 deal with the home meals, supper, breakfast, and dinner. These lessons are planned for execution in the home rather than in the school, are full of excellent information regarding the production, selection, cooking, serving, and eating of the foods that are common and plentiful on the farm and in small towns. Convenience in arrangement of kitchen, good methods in

housework, labor saving devices, correct ideas of sanitation are also dwelt upon.

Chapter 6, entitled "Other Facts about Food" includes a study of 100 calorie portions and the buying and selling of foods. Suggestions are made for ways in which boys and girls on the farm may earn money and the work of canning clubs is described.

"Pages from a student's note book" in the back of the book show the possibilities in the use of the text and will be helpful to the inexperienced teacher as well as to the student.

The fact that the book is intended for use in schools where there is no equipment for cooking and where food work must be given as a part of the general program and not as a special subject, will make it a welcome addition to text books on domestic science.

It will be useful in normal schools where teachers of rural schools are being trained and will also be very suggestive to any teacher of elementary food work and to general grade teachers who are interested in unifying the interests of the school and the home.

HELEN M. DAY,

Head of Dept. of Domestic Economy, Bradley Polytechnic Institute, Peoria, Ill.

The New Interior. By HAZEL H. ADLER. New York: Century Company, 1916, pp. 315. \$3.00. By mail of the Journal, \$3.17.

Upon no theme has there been greater need of fresh and vigorous writing than upon the subject of interior decoration. It is with rare expectation, therefore, that one picks up a copy of *The New Interior* by Hazel Adler, and with a slight sense of unfulfillment that one lays it down. Perhaps the title of the book and the daring cover lead one to expect too much, to anticipate some original or advanced idea; whereas the actual content of the book is but a fresh, free handling of the old subject.

The New Interior is distinctly a voice from the craftsman world. It deals essentially with the decorative idea; is pictorial and imaginative in its tone rather than practical. The view point is that of the artist whose interest lies in creating effects, rather than that of the homemaker who must live

with them. Far from being a defect, this waiving of practical discussion has the advantage of keeping the mind focused on the ideas presented, rather than on the ways and means whereby they will be carried out. One is thereby at liberty to follow the succession of interior pictures which the writer unfolds in her description. This exercise stimulates the imagination and produces a lively sense of resourcefulness which is more valuable to the layman than a whole bookful of fixed directions.

The main impression of the book is that of color. One comes out of its perusal fairly reeking with color. It is here that the modern note is most distinctly felt. The vivid hues, the violent contrasts, and the startling combinations of color make one long to draw a veil over the whole arrangement. While a free use of highly keyed untraditional harmonies is very refreshing and is certainly expressive of the times, it must be remembered that this phase represents the extreme swing of the pendulum and that we have yet to come back to equilibrium. The inserted color chart, which sets forth a theory of color based upon its analogy to the musical scale, is interesting as an intellectual idea and may form the basis for an illuminating variety of experiments; but like most formulae, it is chiefly of value to those who know enough to get along without it.

In a few places the book sags into triviality,—as, for instance, in Chapter V entitled "The Emancipation of the Dinnertable." After an excellent interpretation of what the dining room should be "in action" and "in repose," one is faced with certain illustrations that make one wonder whether, after all, he cares to be emancipated. While, of course, such pictures as those opposite page 108 are to be taken suggestively, rather than literally, still the arrangements there depicted have a feminine, trippy, and unsubstantial air that would give the very shivers to a life-size man. The centerpieces are too dominating and the whole layout is too artificial and dressed up.

The subject described in Chapter XIV, "The Modern Church Interior," is in many ways a foreign note. The idea of a modern church erected by the artisans of a commun-

ity is educative as an experiment; but as a basis for future progress it is absolutely sterile, because it ignores the fundamental economic conditions of the day.

The most forceful traits of the book are the writer's interpretative ability; the ability to analyze an interior situation and give it meaning or idea; and the natural way in which the principles of decoration are woven throughout the text wherever needed.

Mrs. Adler's style of writing is in no way remarkable. It is the mere interest of the subject matter that carries it. The recital of a series of arts and crafts accomplishments, though a natural tribute of talent to talent, starts the book off heavily and gives it a slight commercial smack. The impression of the book is rather choppy, and in places shoppy, due to the manner in which the material is presented.

In general the text is permeated by an undertone of buoyancy and healthy good sense that is very cleansing. One catches therein the virility of the day without its vulgarity. Whatever may be its lasting value, *The New Interior* is for the moment as welcome as a breath of fresh air blowing away the stale odor of tradition.

HELEN BINKERD YOUNG, *Architect*,
Assistant Professor of Home Economics, Cornell University.

Home Labor-Saving Devices. By RHEA CLARKE SCOTT. Philadelphia, Pa.: J. B. Lippincott Company, 1916, pp. 100. \$1.00.

The aims of Miss Scott's book as stated in the preface are "to increase efficiency in the farm home, and to satisfy the growing demand for useful information in the country schools." These aims are admirable in themselves and the book describes simply and clearly a number of useful and ingenious contrivances which any woman or girl who can use a saw and drive a nail can make. The book is of convenient size and will be a useful hand-book. It will be interesting to learn from those who have made actual use of these appliances whether they prove to meet the exacting test of being "worth while."

BOOKS RECEIVED

- Letters to a Young Housekeeper.* By Jane Prince. Boston: Houghton, Mifflin Company, 1917, pp. 167. \$1.35. By mail of the Journal, \$1.43.
- Opportunities for Women in Domestic Science.* By Marie Francke. Philadelphia, Pa.: Association of Collegiate Alumnae, 1916, pp. 64. Paper \$.50. Apply to Mrs. Gertrude Martin, 934 Stewart Ave., Ithaca, N. Y.
- The Prevention of Disease.* By Kenelm Winslow. Philadelphia: W. B. Saunders Company, 1916, pp. 348. \$1.75. By mail of the Journal, \$1.87.

PAMPHLETS RECEIVED

The following Government pamphlets may be obtained from the Editor and Chief of the Division of Publications, U. S. Dept. of Agr., Washington, D. C., free; or from the Department under which they are issued.

- Farmers' Mutual Fire Insurance.* By V. N. Dalgren. Separate from Yearbook of Dept. of Agr., 1916, no. 697, pp. 13.
- A Federated Cooperative Cheese Manufacturing and Marketing Association.* By Hector Macpherson and W. H. Kerr. Separate from Yearbook of Dept. of Agr., 1916 No. 699, pp. 13.
- How to Select Foods. I. What the Body Needs.* By Caroline L. Hunt and Helen W. Atwater. Farmers' Bulletin No. 808, March 1917, pp. 14.
- Turnips, Beets and Other Succulent Roots, and Their Use as Food.* By C. F. Langworthy. Farmers' Bulletin No. 503, March 6, 1917, pp. 19.
- Control of Pollution of Streams.* By Earle B. Phelps. U. S. Public Health Service Reprint No. 384, Jan. 26, 1917, pp. 8.
- Mental Status of Rural School Children.* By E. H. Mullan and others. U. S. Public Health Service Reprint No 377, Nov. 17, 1916, pp. 30.
- Educative and Economic Possibilities of School-Directed Home Gardening in Richmond, Ind.* By J. L. Randall. Bureau of Education Bulletin, 1917, No. 6, pp. 25.
- Maternal Mortality from Conditions Connected with Childbirth.* By Grace L. Meigs. Children's Bureau, Miscellaneous Series No. 6, Bureau Pub. No. 19, pp. 66.

The following are issued by the publishers listed.

- The Care of the Baby.* Prepared by a Committee of the Amer. Assn. for the Study and Prevention of Infant Mortality. Ext. Div. of Univ. of Minnesota Agr. Ext. Bul. No. 62 (Minnesota Farmers' Library), Oct. 1916, pp. 8.
- House Equipment for Running Water.* By J. L. Mowry. Minnesota Farmers' Library Bul. No. 61, Aug. 1916, pp. 8.
- Inexpensive Foods. Corn Meal.* By Bessie R. Murphy. Home Economics Circular No. 6, March, 1917, pp. 4. Also *Rice for Breakfast, Dinner and Supper.* By Bessie R. Murphy. Home Economics Circular No. 5, Feb. 1917, pp. 6. Bureau of Farm Development, Business Men's Club Chamber of Commerce, Memphis, Tenn.
- Child Hygiene.* By Kansas State Board of Health, Division of Child Hygiene, Topeka, Kans. Vol. xii, No. 6, June, 1916, pp. 376-420.
- How to Can Fruits, Vegetables and Meats.* By New Housekeeping Department of the Ladies Home Journal. Philadelphia: Curtis Publishing Co., c1916, pp. 23. \$0.15.

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Annual Report of the Dairy and Food Commissioner of Virginia. B. L. Purcell, *Ann. Rpt. Dairy and Food Comr. Va.* [8], (1915-16), pp. 20 + 50 + 63 + 55 + 63.

Report of the Dairy and Food Commissioner for the Year 1914. B. L. Purcell, *Ann. Rpt. Dairy and Food Comr. Va.* [7], (1914-15), pp. 64.

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The Determination and Distribution of Moisture in Bread. H. L. Wessling, *Jour. Indus. and Engin. Chem.*, 8 (1916), no. 11, pp. 1021-1024.

Factory Control in the Manufacture of Cornstarch and Corn Sirup. A. P. Bryant, *Jour. Indus. and Engin. Chem.*, 8 (1916), no. 10, pp. 930-932.

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The Casein of Goats' Milk. A. W. Bosworth and L. L. Van Slyke, *Jour. Biol. Chem.*, 24 (1916), no. 3, pp. 173-175.

The Soluble and Insoluble Compounds of Goats' Milk. A. W. Bosworth and L. L. VanSlyke, *Jour. Biol. Chem.*, 24 (1916), no. 3, pp. 177-185.

A Comparison of the Composition of Cow's Milk, Goats' Milk, and Human Milk. A. W. Bosworth and L. L. VanSlyke, *Jour. Biol. Chem.*, 24 (1916), no. 3, pp. 187-189.

Chemical Changes in the Souring of Milk. L. L. VanSlyke and A. W. Bosworth, *Jour. Biol. Chem.*, 24 (1916), no. 3, pp. 191-202.

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The Chemical Composition of American Grapes Grown in the Central and Eastern States. Wm. B. Alwood, et al., *U. S. Dept. Agr. Bul.* 452 (1916), pp. 20.

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The Food Value and Uses of Poultry. Helen W. Atwater, *U. S. Dept. Agr. Bul.* 467 (1916), pp. 29, figs. 2.

Fats and Their Economical Use in the Home. A. D. Holmes and H. L. Lang, *U. S. Dept. Agr. Bul.* 469 (1916), pp. 27.

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A Week's Menu for an Average Filipino Family. Josefa Herrera, *Philippine Craftsman*, 4 (1916), No. 8, pp. 514-517.

A Study on Food and the Fuel Value of the Dietary at the New York City Municipal Sanatorium. R. J. Wilson and W. L. Rathbun, *Jour. Amer. Med. Assn.*, 66 (1916), No. 23, pp. 1760-1765.

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Sea Island Cotton. W. A. Orton, *U. S. Dept. Agr. Farmers' Bul.* 787, (1916), pp. 30, figs. 13.

Convict Labor for Road Work. J. E. Pennypacker, H. S. Fairbank, and W. F. Draper, *U. S. Dept. Agr. Bul.* 414 (1916), pp. 218, pls. 14, figs. 10.

The Cold School Lunch. Bab Bell, *Univ. Missouri, Col. Agr. Ext. Serv. Circ.* 10 (1916), pp. 8, figs. 3.

[Care of the Baby] E. F. Ladd and Alma K. Johnson, *North Dakota Sta. Spec. Bul.* 4 (1916), no. 5, pp. 97-132, figs. 8.

NEWS FROM THE FIELD

An International Lectureship. The International Committee on Home Economics Teaching of the A. H. E. A. have secured Miss Alice Ravenhill as a visiting lecturer on home economics, the first exchange teacher or lecturer in this field. The project was approved at the meeting of the Council held in Washington in November.

The plan was to provide in a number of coöperating institutions a series of special lectures, given by a speaker of wide authority, and treating some of the larger problems of the home and its management, and of education for housekeeping and home-making, as well as the physical development in childhood and adolescence, with other essential factors in human efficiency.

Miss Ravenhill, long one of the leaders in the English home economics movement, is best known to American educators as the author of the comprehensive and authoritative Report on Domestic Science Teaching in the United States, made to the English Board of Education; author of similar reports on the teaching of home economics in European countries, and of several textbooks. She was long an inspector of domestic science teaching in England, and lecturer on hygiene and household economics in Kings College for Women, London University; late member of Advisory Board of Women's Institutes, Province of British Columbia; lecturer at Universities of Washington, Utah, Nebraska, and Texas, State Colleges of Utah, and Oregon, and other American institutions.

Miss Ravenhill began her lectures at the University of Utah January 24, from there going to the Homemakers' Conferences organized by the Utah State Agri-

cultural Colleges at Ogden and Logan. She has spent a week at the University of Nebraska lecturing in the Departments of Sociology and Household Economics. She also spent a week at the University of Texas and one at the Homemakers' Conference at Fort Worth. She has visited Kansas Agricultural College and the University of Kansas. On March 19 she spoke in Chicago at Lewis Institute on her way to Cleveland, New York, and Boston, expecting to return to Iowa by April 1.

Her subjects are: "Home Economics in the Twentieth Century;" (1) "Scope of the Subject and its Actual Influence on Human Progress;" (2) "Its Relation to Efficiency—Individual, Domestic, Economic and Industrial;" (3) "General Teaching Methods—Constructive Criticisms;" (4) "Its Relation to the Home—Structure, Equipment, General Fitness;" (5) "Relation to the Home—the Inmates, Occupations and Recreations."

These subjects are announced tentatively and there may be substituted other topics such as—the Place and Purpose of Family Life; Phases of Growth, their Needs, Significance and Development; Modern Thrift in Its Bearing on the Individual and Households; Factors in Human Efficiency.

The terms are for one week, \$100 and expenses—estimates not to exceed \$150—\$175 in full; for one day, providing two lectures, where itinerary permits, \$50 including expenses; other times at proportionate rates. Immediate correspondence from all interested is requested, stating the conditions which the local program and budget suggest as to coöperation in these lectures.

Please correspond with Prof. B. R. Andrews, Teachers College, New York City.

The Northwest Texas Home Economics Convention arranged by the extension department of the University of Texas and held in Fort Worth under the auspices of the *Fort Worth Record* and the women's organizations of Fort Worth, February 19 to 24, included several notable speakers.

On the first day, Home Economics Week, from the Newspaper Point of View, from the Homemakers', the Merchants', and the University Point of View, was discussed by W. H. Bagley, general manager of the *Fort Worth Record*, by Mrs. Saunders, and by Miss Mary Gearing, of the University of Texas.

Mr. Frederick C. Howe, commissioner of immigration at Ellis Island, gave the first of a series of lectures on the topics: "Woman and the City of Tomorrow;" "The Immigrant in Relation to America;" "The Education of Tomorrow—A Social Problem;" "The City and Its Homes;" and "Denmark, the Coöperative Commonwealth."

Miss Alice Ravenhill spoke on "The Foundation of Human Efficiency, Nature and Nurture," and during the week discussed other problems of efficiency.

Mr. Stroughton Holborn of Oxford College, England, gave several lectures on art: "The Need of Art in Daily Life;" "Art and Citizenship;" "The Houses of the People;" "The Relation of Beauty to Goodness and Truth;" "Personal Ornament and Dress, the Modern Failure;" and led a discussion of "The Artistic Arrangement of Our Houses."

Miss Mary Gearing treated "The Budget as a Means of Reducing the Cost of Living," and conducted a round table on "Some Household Leaks and How to Avert Them."

Discussions and demonstrations on different phases of the cost of living were given by Miss Blodgett and Miss Lawrence of the extension department of the University of Texas. "The Peanut as a Cheap Palatable Food," "The Stock Pot and Other Soups as a Means of Reducing the Cost of Food," and "Methods of Buying as a Means of Reducing the Cost of Foods,"

were some of the topics; while Mr. Golax spoke on "Some Factors Influencing the Cost of Foods in Texas." A bread making demonstration by Miss Lawrence was followed by a round table on "The Price of Bread, Homemade vs. Baker's" led by a local baker and Miss Blodgett.

Mrs. Pennybacker gave an evening lecture on "Some Interesting People I have Known" and an afternoon talk on "Who Closes the Door—Youth or Old Age?"

The last day was devoted to municipal problems with a discussion of "Municipal Markets" by Dr. Cockrell; "Municipal Cold Storage Plants," and "Modern Methods of Municipal Refuse Disposal."

The Conference of New England Normal School Teachers of Home Economics. On February 16 and 17, 1917, the first conference of New England Normal School Teachers of Home Economics was held at Simmons College, Boston, Mass. This was the sixth in a series of sectional conferences which have been called by the United States Commissioner of Education, the previous conferences having been held at Nashville, Tenn., Kansas City, Mo., Moorhead, Minn., Chicago, Ill., and Scranton, Pa.

The following state normal schools were represented at the sixth conference: Farmington and Gorham, Maine; Plymouth and Keene, N. H.; North Adams, Hyannis, Salem, Fitchburg and Framingham, Mass.; Providence, R. I.; Willimantic, Conn.

The conference was presided over by Miss Lyford of the United States Bureau of Education, who outlined the purpose of the Conference and presented the "Home Economics Course in the Normal School" as the theme for discussion.

Dean Arnold of Simmons College gave an address of welcome in which she pictured the field that lies before the student of home economics and the possibilities for future development.

Differing conditions. The widely differing conditions in the normal schools represented at the conference became apparent as the

discussions progressed. Framingham, Mass., gives a three-year course designed to prepare special teachers of home economics. Two courses in cooking and in sewing extending through nineteen weeks, two periods a week, are offered at North Adams, with special classes for those who expect to teach in the rural schools.

The normal school at Fitchburg has offered no courses in home economics to the normal students for the past two years. Lessons are given to girls in the seventh and eighth grade in the training school. No classes are conducted at Salem as a part of the normal course, while Hyannis offers fifteen weeks in cooking and sewing. The special home economics course given at Willimantic, Conn. covers two years.

In the Rhode Island State Normal School at Providence, a course in cooking is offered for one hour a week, and a course in sewing for two hours a week throughout one year.

The courses offered in the normal schools of Maine extend through two years and consist of one or two periods per week in cooking and sewing. A third year for those desiring to become special teachers of home economics in the state is offered at Farmington.

The state normal school at Plymouth, N. H., offers a one-year course and has an arrangement for students who desire to give a third year to special study of home economics, after their regular two-year normal course is completed. The regular course at Keene runs through one year.

Special features. Miss Wooldridge reported a specially well worked out system of correlation between the departments at the Gorham, Maine, Normal. The students are given an opportunity to study the relation of the home economics course to the general school curriculum, giving the work a two-fold value. The materials for the cooking classes are all secured from the dormitory and the finished products are utilized in the dormitory or in the school lunch conducted for the children of the practice school.

Miss Coss reported the system of practice teaching carried on at Framingham. Seventy-five students are teaching sewing at the present time. Classes are conducted not only in the training school but in the schools in nearby towns. Lessons in sewing are planned for the fifth, sixth, and seventh grades, for some of the ninth grades, and the high schools. Miss Coss presented a chart outlining a system of unified sewing problems for each grade.

Miss Goff of Hyannis told of the course in eugenics designed to give the girls instruction in right living, and carried on in connection with their life in the dormitory, and she described the lessons in homemaking that are introduced in the training school from the first through the ninth grade.

Miss Carpenter outlined the course given her seventh and eighth grade girls in the training school at Fitchburg and described the equipment for the preparation of large recipes. Only the simplest dishes are prepared but those are always made with a large recipe and the products are utilized in the dormitory.

Miss Child makes a careful study of the home conditions of her pupils in the training school at Salem and through informal talks relates all their lessons to their home lives as closely as possible. She has found a home economics club helpful. The cost of the cooking lessons in her classes averages 5 cents per lesson.

Miss Smith reported that the course at Farmington includes such special features as one term of demonstration lessons, six lessons in experimental cookery, lessons in household management, dietetics, and the care of children.

The courses at Plymouth were outlined by Miss Varrell as specifically planned to prepare the girls for teaching in the rural schools. The graduates may be required to teach home economics or to cooperate with home economics teachers. The students are given practice in school lunch work, for the noon hour is felt to be "the hour of the home economics teacher."

The girls are also given opportunity to do catering in the village.

Miss Blakey described the carefully worked out lesson plan used in the practice teaching in Willimantic that includes a discussion of the score card by which results are to be judged, and the establishment of a time schedule to determine the length of the various processes. The seniors at Willimantic live in the dormitory and the work of the dormitory is in the hands of twenty girls divided into groups of five. This plan is similar to that followed at Framingham. The work of the senior dormitory at Framingham is in the hands of thirty girls who are closely supervised by the director of home economics.

Miss Sholes reported that at North Adams the rural school is the center of the work. The children bring the materials to be used from their houses. The plans are made out some days in advance, are submitted for approval, and the work is carefully supervised from the normal school.

A summary of the discussion is given in another page of the JOURNAL.

Miss Lyford writes: The teachers in attendance at the conference were most delightfully entertained by the Home economics staff of Simmons College. On Friday, Dr. Blood, Director of the Home Economics Department, invited all members of the conference to partake of a luncheon prepared by one of the cooking classes. On Saturday, Dean Arnold entertained the conference at lunch in the well appointed cafeteria. Opportunity was given to visit the various departments of the institution and a most interesting hour was spent with Miss S. Maria Elliott who explained her working equipment and methods of teaching household management. Other members of the staff also explained their courses and took part in the discussions of the conference.

Brief Notes. The University of West Virginia gave its first winter short course with an enrollment of eleven students.

This course was used as a method of training local leaders for various county projects.

The January meeting of the Home Economics Association of Philadelphia was in charge of the Committee on Institutional Feeding. Dr. C. F. Langworthy, Chief, Office of Home Economics, United States Department of Agriculture addressed the association on the Methods of Presenting Food Values and Food Combinations to the Layman.

The March meeting was a particularly happy one, as a former teacher of many of the members made the address. To those who had been his students the name of Dr. Albert P. Beubaker, of Jefferson Medical College, and his topic "The Vitamins and Their Influence on Digestion" meant a delightfully instructive evening, and their expectations were more than realized.

The preliminary notice of the forming of a Dietitians Section was given in accordance with the charter.

Mrs. Henrietta Calvin, Specialist in Home Economics, U. S. Bureau of Education, expects to attend the National Education Association in Portland, Oregon, July 7-14, and the meeting of the home economics supervisors of city schools preceding it.

She will lecture at Manhattan, Kansas, the last week in July, on her return trip. She is also to give an address at the Pennsylvania State College on the celebration of the tenth anniversary of their Home Economics Department, May 17 and 18.

Mrs. Calvin attended in April two rural educational conferences, one at Philadelphia and one at Rock Hill, South Carolina.

Schools desiring to have Mrs. Calvin address them might make arrangements with her when she is to be in their locality.

Miss Catherine MacKay, the president of the American Home Economics Association, will attend the meeting of the Association in Portland.

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THE MOTHER-DAUGHTER HOME CANNING CLUB¹

O. H. BENSON

United States Department of Agriculture, Washington, D. C.

Every social as well as every economic organization must have a definite reason or motive for its existence. The Mother-Daughter Home Canning Club, in order to be understood, must be studied with a realization of the full meaning of the word home, and its relation to the members of the family, their social, educational, physical, and economic efficiency, and its relation to the community as a unit of society, to the state, and to the nation. In other words, to outline properly a Mother-Daughter club project, the leader must have a definite appreciation of what a democracy means, and the place of the home in its complete interpretation.

The Mother-Daughter Club is especially planned to bring about a closer fellowship for the home work, in both social and economic activities, affecting both adult and the young daughter. The mother needs the fellowship and viewpoint of the young girl in order that she may be in touch with the educational progress of the day; with the social changes characterized by the interests and activities of the girl as she comes fresh from classroom laboratory, and the instructor of the modern school; and with the influence of the local community. The mother needs the youth, optimism, and dream life of the girl in order that she too may remain young a great deal longer.

The daughter, in turn, needs the reinforcement as well as the association of the mother or experienced adult woman in order that she may

¹ Part of an address given before the National Vocational Education Association, Chicago, January, 1917.

secure from her a better balance and poise of character and thought for her young life. She needs the judgment, the decision, the benefit of years of study, experience, observations, in order to save her from making the mistakes and perhaps experiencing much of the defeat and grind which has haunted the life of the adult mother.

The club project assumes that the social group must have for its motive something definitely and immediately helpful to the home and to the farm; consequently the home canning club has been undertaken, as this not only affects the bank account, the yields per acre, the net profits to the farm, but also insures a better balanced ration, and consequently, a better fed and more efficient membership of the home and community.

The supply of food, its proper care, preparation, and serving is a practical and effectual beginning of housekeeping and homemaking—a splendid introduction to the social, educational, and domestic development of the American girl, through which comes to her the realization of a well ordered home. It is the best home interest project available because it enters the home by way of the back yard and the kitchen, and gains entrance to the home work-shop, where truth is lived and told. Through this medium, home canning, the leader is able to perform a real service to the mother, the daughter, and the home by coming, unannounced, via the economic motive, into the very life and thought of the entire family.

The club meetings should be attended by an equal number of mothers and daughters. One-half of the officers of the club group should be adult women, and one-half daughters. The literary program, demonstrations, illustrations, musical work, should represent equally the women and girls and so be a truly coöperative enterprise.

From this club group it will be easy to maintain a fair apportionment of work in the home activities such as in the home canning. In many communities adult women who are not mothers, and who may be without the opportunity of association with young girls, may become members of the club, providing they find some girl in the community who needs to be mothered for a season through this kind of a club project. In turn, orphan girls and others may become members if they will find an unmarried woman, or some mother who has been left alone and without a daughter, and will take this adult women and agree to daughter her through the club work for at least a year.

The club program should be conducted, in so far as possible, at a time, preferably afternoons, when most convenient for both mothers and daughters to attend. The program may profitably be divided into three parts, consisting of not less than an hour and a half.

First there may be a business meeting, in which both women and girls may be given some parliamentary drill. The second part may be a special program, in which at least one subject should be in connection with the home canning work, dealing with methods, devices, directions, and products, their preparation, marketing, or use. In addition to the home canning subject, other subjects related to the household interests, such as the care and feeding of the baby, water supply, the convenient arrangement of the kitchen, the heating and lighting of the home, ventilating bedrooms and living rooms, clothing for the summer, clothing for the school girl, study of fabrics, the relation of the home to the school, how women may best help their husbands to earn and save money, how to secure labor saving devices for the home, and other interesting subjects of a similar character may be given.

It is suggested that at least two meetings be held each month and that, in addition to these club meetings, the canning season be organized with a view to having coöperative canning parties in which a convenient number of mothers and daughters will meet in a given home to conduct or do their home canning work in well organized coöperative groups. If the club is too large to do all of its work at one place with one single canning outfit, it will be possible to organize the club into smaller canning groups, each group to own its canning equipment in a coöperative way, with a view to both economy and efficiency in the work.

It is suggested that, after this Mother-Daughter Canning Club has spent one year on the home canning project, it will be ready in the second year for an increase of definite home project work. The plan contemplates a course of four years through which the canning work is carried. During the second year definite cooking lessons are to be given in connection with the canning; for the third year, a series of lessons and directions on canning, cooking, and sewing; and during the fourth year, the work is to be so shaped as to cover four definite home interest subjects—namely, the home canning, cooking of food, sewing, and care and arrangement of the kitchen. Perhaps through the entire four years a system of cost accounting or records should be kept, so that all members of the project teams may have a very definite appreciation of the business management of the home and its interests.

Those eligible to membership are: girls from 10 to 18 years, inclusive; mothers and adult women, regardless of age, who are interested in girls and home canning.

The project. The club project is to be confined chiefly to the canning of fruits and vegetables during the summer months, while soups and meats will be taken up for the winter season, and these subjects will be discussed, illustrated, and demonstrated on every program of the club during the year. The food products to be canned should be raised in so far as possible by club members or they may be purchased at the market, gathered wild, or canned "on shares."

The program. The program for the Mother-Daughter Home Canning Club should be definitely outlined by the state leader, with specific suggestions on how to conduct the business session and how to outline and make up a subject-matter program. A circular containing suggestions to the social committee for the social part of the meeting may be furnished. The following outline of programs will be found suggestive to leaders and program committees:

PROGRAM FOR FIRST MEETING

Roll call, answered by giving report of number of jars canned at home.
Business meeting, twenty minutes.

Special program.

Report of members as to progress in work.

Discussions by members on:

Methods in canning.

How to make an inexpensive homemade canner.

Best fruits and vegetables for the diet.

Demonstration by Mother-Daughter team on how to can strawberries.

Social program. This should be furnished by the social committee, and should provide for a free and informal discussion on community interests, school problems, current events, and perhaps the playing of a few games in which both mothers and daughters may participate with interest. This program should offer some versatility in order to keep up interest on the part of both mothers and daughters.

PROGRAM FOR SECOND MEETING

Roll call, answered by giving a favorite recipe.

Business meeting, twenty minutes.

Demonstration program—demonstration by Mother-Daughter teams on

How to can soft fruits.

How to make a homemade canner.

How to can dandelion greens.

How to prepare and serve vegetable greens.

Social program. In connection with the social program the suggestions given above for the first program may be followed. It may be desired also to have a few numbers of music. A few stories, nursery rhymes, and demonstrating the telling of stories to little children will be valuable as part of the social program and will also be desirable for training the mothers and daughters for their home responsibilities.

In a similar way programs may be outlined for every month, every two weeks, or every week, as necessary, covering the entire calendar year of twelve months. Play festivals, socials, fairs and festivals, educational excursions to visit gardens, orchards, home kitchens in the neighborhood, should be planned in connection with these programs. The boys and fathers should be invited to a number of meetings during the year and should be given a chance to become interested in the entire year's program of the Mother-Daughter Club. The club may sometime during the year give a banquet to the husbands, fathers, and friends.

Instructions for the club work. The state leader in charge of boys' and girls' club work and extension workers in home economics should be consulted and their coöperation secured. They should be asked to furnish programs, outlines, and follow-up instructions. In addition to this, the United States Department of Agriculture should be asked for their Mother-Daughter home-canning instructions, NR series.

Prizes and awards. It is understood that the entire club will work to win honor and reputation for the community in which they live, and that, in addition to this, the Mother-Daughter team will constitute the unit upon which the standards of achievement are to be measured. At the club festivals, county, district, and state fairs, it is suggested that prizes be given with a view to the exhibits from the mother-daughter combination. If a prize is given for an exhibit of canned goods, this prize is to be won by the mother and daughter together, and to be owned by them coöperatively.

BASIS OF AWARD:

1. Quality of variety of canned products.....	20 per cent
2. Quantity of canned products.....	20
3. Appearance of canned products.....	20
4. Profit on investment.....	20
5. Records or stories of home canning work.....	20
Total score.....	100 per cent

The basis of award is suggested, not only to guide the judges or referees in the awarding of honors in local, district, and state club festivals and fairs, but for the awarding of prizes, and premiums, and more especially for the basis upon which school credit may be given for the canning work as a home project in connection with the requirements and studies in home economics for the public schools.

It is suggested that at the close of the canning season the daughters, working in coöperation with the mothers, take up a study of some additional but definite problem in regard to the development and working efficiency of the home.

FOR EVERY HOUSEHOLD

This is the time for America to correct her unpardonable fault of wastefulness and extravagance. Let every man and every woman assume the duty of careful provident use and expenditure as a public duty, as a dictate of patriotism which no one can now expect ever to be excused or forgiven for ignoring.—WOODROW WILSON.

SOME PRACTICAL SUGGESTIONS FROM THE AMERICAN
CHEMICAL SOCIETY

LOUISE STANLEY

University of Missouri

At the meeting of the American Chemical Society in Kansas City, April 10 to 13, there was much of interest to the women in home economics. Much emphasis was laid in the general meetings on the chemist's part in the war program. Our chief part comes in where chemistry touches the food problem. The women were urged to buy no platinum jewelry and to discourage its use so as to leave all the platinum in this country available for use in chemical research.¹

The section meetings of Biological Chemistry and of Food and Agricultural Chemistry were of greatest interest to us. Only those of most direct interest to home economics will be reviewed. In the latter section a most interesting paper was given by Miss Elizabeth C. Sprague on the practical uses of alfalfa flour.² When the alfalfa leaves are ground they yield a fine green powder. When this was added untreated to the bread even in so small a proportion as one part in ten it gave a green color and a rank taste to the loaf. Miss Sprague found, however, that by extraction with 95 per cent alcohol it was possible to remove the color and the rank flavor from the flour. The extracted flour could be added to the loaf in the proportion of one part to ten parts of the ordinary white flour without imparting a disagreeable flavor to the bread. The advantage of the addition of the alfalfa product was its very high protein and mineral content. The ash is especially rich in calcium and potassium, and, though no calculations have been made, it would indicate high potential alkalinity. The extracted flour has not been put on the market, though one firm has considered doing so. This offers a possible development of war bread.

Miss Sprague suggested as a possible value in this connection the addition of a food containing an alkaline ash to the soldier's dietary so largely composed of foods yielding an acid ash.

¹ Since this report was written, the Jewelers' Vigilance Committee, in conference with the Secretary of Commerce, have adopted resolutions to recommend that all jewelers of the United States discourage the use of platinum in all bulky pieces of jewelry and in all nonessential parts of jewelry.

² Elizabeth C. Sprague. The Practical Use of Alfalfa Flour.

Interesting in this connection was a paper given in the Biological Section by Professor Grindley³ of Illinois on the changes in the composition of the alfalfa plant at the different stages up to maturity. He showed wide variation in the composition of this plant at the different stages of growth. The young plants were relatively high in protein and ash and low in crude fibre. The percentage of crude fibre increased with the age of the plant.

The effect of the intake of foods yielding an acid ash on the growth of swine was the subject of a research reported from the Iowa Station by Lamb and Evvard.⁴ They experimented upon twelve animals divided into four groups of three each. One group was used as a control, while the other groups received definite amounts of acetic, lactic and sulphuric acids, respectively. The amounts of acid used were little more than would have been derived from an exclusive diet of egg yolk. All the groups were given the same amount of other feeds, the amount being controlled by the appetite of the lowest eating group. All four groups grew normally, the weight curves following each other closely. The sulphuric acid lot had the least appetite during the whole of the experiment. During the last twenty days the animals in each group were allowed to eat all they would, and during this time the sulphuric acid lot did not gain so much in weight as the other lots, due to the smaller amount of food taken. Some samples of morning urines were taken for analysis. The ammonia content was found to be greatest on the sulphuric acid diet, with 21.5, 21.7, 22.7 per cent, least with the acetic acid (7.9 per cent), with lactic acid coming slightly above the acetic acid with an ammonia content of 9 per cent. The amount of ammonia found in the urines of the sulphuric acid lot was about equivalent to the amount of sulphuric acid fed. The reaction of the blood was found to be approximately the same in all cases. They conclude that swine are able to grow normally on foods that are decidedly acid. The investigation is to be continued for a longer time to test any possible effect on reproductive power and with a more detailed metabolic study.

There were a number of investigations reported on the different phases of the fat question. There were three reports upon the character

³ H. S. Grindley and H. C. Eckstein. Variations in the Chemical Composition of Alfalfa at Different Stages of Growth.

⁴ A. R. Lamb and John M. Evvard. The Effect of the Ingestion of Certain Organic and Mineral Acids upon Growing Swine on a Normal Level of Protein Intake.

of the fat from somewhat unusual sources. Bailey and Burnett⁶ sent in a report on the oil of the avocado. Though this fruit is not grown at the present time in sufficient quantity to supply the demand for the fresh fruit, its growth is being extended so rapidly that it seems possible that at some future time the oil from it may become an important side or by product from this industry.

The oil from the *Stilingia Sebefera*,⁶ a seed imported from China and grown in fairly large quantities in South Carolina was investigated on account of its reported toxicity. The investigators were unable to detect any toxic character in the fat which they extracted.

In another paper the same authors gave the constants for the fat extracted from the seed of the tomatoes.⁷ This oil is extracted in profitable amounts in Italy. In this country the season is so short that the extraction has not been considered commercially profitable.

Biesterfield and Everson⁸ outlined a method for the estimation of fat in condensed milks and dried milks, in which the samples were treated with acetic acid and then to an extraction with mixed solvent, ether and petroleum ether. The fat entered into some combination from which it seemed to be released by the action of the acetic acid. The mixed solvent seemed more efficacious in the removal of the fat than ether alone; also it was recovered better.

A fairly simple method of demonstrating the hydrogenation of fat was outlined by Bailey and Burnett.⁹ They used finely divided nickel which was freshly precipitated and reduced in a stream of hydrogen. The whole method was simple and could easily be used as a laboratory demonstration or experiment in a course in foods. No attempt will be made to report the details of the method since only the abstract was read and one or two of the points seemed to need checking up.

Bailey¹⁰ also sent on the description of an apparatus for the determination of the melting point of fats which was heated by the resistance offered to the passage of an electric current through sulphuric acid.

⁶ H. S. Bailey and L. B. Burnett. Oil from the Avocado. Preliminary report.

⁶ H. S. Bailey and L. B. Burnett. Oil from *Stilingia Sebefera*.

⁷ H. S. Bailey and L. B. Burnett. Physical and Chemical Constants of some American Tomato Seed Oils.

⁸ C. H. Biesterfield and O. L. Everson. A Study of the Estimation of Fat in Condensed Milk and in Milk Powder.

⁹ H. S. Bailey and L. B. Burnett. A Laboratory Method for the Hydrogenation of Oils.

¹⁰ H. S. Bailey. An Electrically Heated Melting Point Apparatus.

The range of temperatures to which the solution was heated could be regulated by the distance the ends of the electrodes were separated.

Less work was reported on the carbohydrates than on fats. Thomas¹¹ reported an accelerating effect of bromides upon the action of malt diastase. Zentmire and Fowler¹² showed that the utilization of the carbohydrate was equally good on a high and a low carbohydrate diet. The high carbohydrate diet was practically protein free. In spite of the unpalatability of the diet the utilization was good. Well-cooked cereal starches are evidently completely utilized, the utilization of the total carbohydrate in the diet averaging about 99 per cent. The quantity of the cereal given did not affect the utilization. Assuming the complete utilization of the lactose and sucrose, we still have 97 to 98 per cent of the starch utilized.

In the division of Agricultural and Food Chemistry, Long¹³ made a preliminary report upon a volumetric method for the determination of starch. In it the starch is precipitated as starch iodide by the addition of a known amount of $\frac{N}{50}$ iodine solution. After filtration the excess of iodine was determined in an aliquot of the filtrate by titration with an $\frac{N}{50}$ potassium iodide solution using starch as an indicator. The method is especially valuable in the determination of starch in mixtures containing also large amounts of sugar, as marmalades, jellies, and candies.

In the field of digestion Long and Hull¹⁴ reported upon the optimum activity for the tryptic enzyme. In opposition to the usual statements to the contrary, they find the reaction most favorable to the activity of this enzyme frequently on the acid side. The optimum point varies with the different proteins for the two proteins studied. The optimum reaction for casein was more acid than the reaction for fibrin. The study is being extended to other proteins.

Long and Fenger¹⁵ report that during digestion the intestinal content yields an acid reaction. In the intervals between digestion the reaction approaches an alkaline reaction. A study of the gases in the small intestine indicated the presence of a mixture closely resem-

¹¹ A. W. Thomas. A Noteworthy Effect of Bromides upon the Action of Malt Amylase.

¹² Zelma Zentmire and C. C. Fowler. Studies of Food Utilization. No. 1. The Utilization of Carbohydrates on a Relatively High and Low Cereal Diet.

¹³ W. S. Long. A Method for the Determination of Starch.

¹⁴ J. H. Long and Mary Hull. On the Optimum Reaction for Tryptic Proteolysis.

¹⁵ J. H. Long and F. Fenger. On the Normal Reaction of the Intestinal Tract.

bling the composition of air. During digestion the carbon dioxide was markedly increased at the expense of the oxygen. No hydrogen or marsh gas was detected.

Fowler¹⁶ reported some finding on the study of gastric residuums. This particular study was undertaken to see whether or not there was any relation between the acidity of the gastric content and the total phosphorus content, in order to throw light on the possible formation of gastric HCl from the interaction of di-calcium phosphate with calcium chloride. The stomach contents of a number of normal men and women were removed by means of the Refuss tube for examination. He found that there was no relation between the acidity, either free or total, and the phosphorus content. The total phosphorus content was fairly constant and was higher in women than in men. This seems to be in accordance with the higher proportion of phosphorus in the blood of women than in the blood of men.

Moulton¹⁷ reported that in a series of experiments upon beef animals upon an alfalfa-grain diet, 53 per cent of the energy of the food consumed above maintenance was recovered in the tissue gained. This Moulton takes to be a measure of the availability of the ration used. Making similar calculations for some experiments by Armsby, he finds the ration to be 55 per cent available. These figures show a remarkably close agreement and closely verify the results obtained by Armsby in the work in the calorimeter.

Green¹⁸ reported some work on the changes in composition of the salmon muscle. The salmon during the breeding season leave the salt water swimming up stream in fresh water. During this time they take no food but the energy used in swimming as well as the large development in the reproductive organ must be at the expense of the body tissue. From a comparison of analyses made at the mouth of the river and those made higher up, Dr. Green finds that the muscle protein may be decreased as much as 30 per cent. This according to Green suggests the possibility of storing protein to this extent. In other words, the salmon at any rate may hold as much as one-third of its muscle protein as stored energy or as protein available for growth in other portions of the body.

¹⁶ C. C. Fowler. Studies of the Gastric Residuum. No. III. The Relation of Total Phosphorus to Acidity.

¹⁷ C. R. Moulton. Availability of the Energy of Food for Growth.

¹⁸ C. W. Green. Changes in Composition of Salmon Muscle during Breeding Season.

A HOME WITH AN INCOME¹

ANNETTE HARVEY

Supervisor Home Economics, Huntingdon, West Virginia

A year ago I was confronted with the problem of providing a home for mother and myself. After full consideration, I decided to rent an apartment rather than a house. The house work is easier when all the rooms are on one floor; and then, too, whenever I had to be away, I was assured of better protection for mother in a second floor apartment than if she were left alone in a house.

A thorough apartment hunt brought me face to face with the fact that no sum under \$540 a year would provide a cozy home of this variety in our particular little city where rents are high.

Five hundred and forty dollars every twelve months and nothing to have or to hold at the end of that time appeared appallingly unfair to me. I was earning my money by teaching. I realized its value, and paying rent was not an agreeable way of using my salary as I saw the situation. I wanted something to represent the money I earned.

It was brought to my attention about this time that the landlords owning the apartments I had looked over were making from 10 to 15 per cent upon their investments in these buildings. Six per cent I found was a fair amount of interest to pay upon borrowed money. With a suddenly acquired Hetty Green attitude of mind, I wondered if I might not put my money into such an investment as these landlords held, instead of paying rent to them.

The idea was monumental. It would be my first plunge into business, and the thought staggered me at first. Yet it grew with a steadiness of purpose probably helped by the possession of a lot, which I had proudly purchased some time before with my first earnings.

At the time of buying this lot I had no idea of building. It was merely an investment into which I put my savings. The property was situated in a part of the town where real estate values were rapidly increasing and wiser heads than mine considered the investment a good one. How pleased then I became with the full realization that I had paved the way to the actual possession of a home by putting my extra salary each month into this narrow strip of land instead of spending it as it was paid to me in the way many of my fellow teachers did.

¹ A brief extract from this paper was published in the *American Magazine*, January, 1917.

On my lot I decided to erect a building containing two homes; one a home for mother and me in the second story, and another for a second little family below, under the same roof, sharing an equal sense of protection, which the presence of each would give to the other, but separated by sound-proof floors and well built walls. This plan appealed to me as sound in purpose.

I intended that my homes should contain rooms that would not have to be labeled; that they should be planned with individuality enough to express their special functions. I planned light, cheery living rooms, large enough for big comfortable furniture, uncrowded together; dining rooms containing easy spaciousness for all requirements; kitchens lighted with many windows and sinks built the exact height to prevent tired backs; bed rooms situated where sunshine could play into the windows, and spaces planned for beds, roomy dressers and chests. The bath rooms must have by all means the new skirt tubs, models fitted close to the floor; and porches must be big and broad enough to provide space for many uses on summer days and nights. Most of all I wanted my homes to be plain. Plain doors, plain woodwork, with every dust-catching intricacy eliminated as far as possible, would dispel many house keeping worries and make the apartments easier to keep in cleanliness and order.

Could all these desires be carried out with very little ready money, I wondered, almost fearful of speaking of my intentions. Then too, my lot only 40 feet wide and 140 feet deep—was this large enough for a building such as I contemplated?

I wanted each room to be bright and airy, visited by the sun, if possible. I wanted plenty of windows to allow for cross currents of air. I wanted fire places, too, not only to aid ventilation, but to give my apartments the very real sense and hominess that only burning embers can provide.

Could I? Was it possible for me to have all of these wishes for \$5000. It seemed that I would have to own a wishing-ring to gain so much. But venture and finding out, are almost as good as wishing-rings, so I proceeded to put all of my ideas down on paper before I went forth to talk with architects and builders. I realized I must be definite when I talked to them of my plans. I made my original floor plans on a piece of graph paper, allowing the side of each little square to represent one foot.

First of all I marked off the size of my lot and within that boundary line drew the outside dimensions of the house, 30 feet wide and 50 feet long. I planned the front wall 25 feet back from the sidewalk (the required building line); inside the west boundary line I allowed 3 feet, which left 7 feet remaining on the east side of the building. On this side I planned the bed rooms. It became necessary for me to add 8 feet more to the length of the building before I was satisfied with the results.

The first floor plans consisted of a front porch, vestibule, reception hall, living room, dining room, butler's pantry, kitchen, kitchen pantry, two bed rooms, hall bath room, back porch, and four ample closets, dear to the housewife's heart. The up-stairs apartment, the one I planned for my home, was a duplicate of the first floor plan with the exception of a smaller reception hall, giving space for a study over the vestibule down stairs. The plans also contained a back stairway to an attic, to be used by the occupants of both apartments. An attic in our region proves best for storage purposes, a place where we need not fear dampness or mildew, so often encountered in our basements. Under the rear stairway at the bottom was a closet, separate from both apartments, where garden implements, and gas and electric meters could be stored. This I saw obviated the necessity of gardeners and gas and electric men entering the house on their frequent visitations.

With my roughly made plans I sought a contractor who assured me that my ideas were practical for building purposes, and after giving him further details of the material and finish I desired to use, I asked him for a building estimate on a house of that description. His almost discouraging estimate was more than \$5000, the sum I could afford to borrow and repay with interest in a reasonable time on the salary I commanded.

My building would not have become a reality had I not accepted the advice of a friend at this period. Acting upon his counsel I interviewed an architect, who finally put my plans into concrete order, with the proper specifications, and offered them to several contractors,—and then I waited anxiously for the bids to come in. The competition brought in various sums, differing over \$1000, the lowest being \$4800. This estimate, \$200 less than my limit, paid not only the architect's fee but also for the walks about the house.

In the meantime I had been probing into ways and means for financing this dream house of mine. Another surprise stalked in my way.

Money I soon learned is a very irregular measure of value. One man's or one firm's money was held out to me on higher terms than his next door neighbor's. Quite naturally, these men directed many technical terms of the financial and real estate world at my head, to further bewilder my debut into the building field. After sifting out all the difficult and questionable problems, I decided that a home purchase plan, as directed by one of the big reputable insurance associations, was the one to use if I made sure of no blunders in my venture. This plan necessitated two requirements; first, an insurance policy on my life, and second the house completed before the company made their loan of money.

I submitted myself to their physical examination and as soon as I had passed the requirements, I completed arrangements with the contractor who had made the lowest bid, to start building my apartments, or Duplex House, as it was called.

My contract with this man stated that the house was to be paid for in three payments: \$250 when the brick walls were up; \$1000 when the roof was on; and thirty days after the house was completed the remaining amount in full. This allowed time for me to secure the company's loan to make the final payment.

So quickly had my plans developed there had not been time to save from my salary a sum sufficient to make the second payment at the time it was due. It was necessary for me to borrow the money. I secured this amount at 6 per cent interest from the bank where I kept my savings.

During the time of building, my credentials had been accepted by the insurance company, proving that I was a member of reputable standing in the community in which I lived and that my income was sufficient to meet the required monthly payments agreed upon.

When the building was completed an appraisement was made of the property by a representative of the insurance company and immediately I was loaned \$4000, or one-half the appraised value of my entire holding. Out of this \$4000 I settled with my contractor and paid all outstanding charges connected with making the loan, as fees for appraisal, title examination, survey, drawings, recording mortgage, and photograph of the house, amounting in all to \$50.

In return for this \$4000 loan, I have since paid the insurance company \$53.08 a month and I am obligated to continue this payment for ten years. At first thought "ten years" sounded a very long time,

in my ears, for the absolute ownership in a home to mature. Now I realize that ten years will quickly slip by, judging from the rapid flight of the past twelve months and at the end of that time I have amassed a comfortable little nest, and an egg of an income. I have not been paying my money for years into the sieve of rentals.

The sum \$53.08 a month can be spared from my salary without discomfort to me. From this amount the rate of insurance on my life (which is rated according to age), 6 per cent interest on the money loaned, and a part of the principal is paid. In ten years I will have paid the insurance company what they have loaned me plus \$2369.60. From this amount the company deducts a yearly dividend, amounting to about \$15 which automatically applies upon my policy and at the end of ten years I can continue my insurance for less than \$9 a month.

One of the attractive features of this loan is that I am enjoying my own life insurance in the possession of my home, for that is what the \$4000 represents. If I should die during my indebtedness to the insurance company my mortgage will be cancelled and all the money I have paid on the \$4000, minus 6 per cent interest, will be returned to my heirs. If I had rented an apartment of similar type for my home, I would in the period of ten years have paid a landlord \$5400—at the end of ten years I would possess nothing.

While it is true \$53.08 is in excess of the sum I would pay for rent, this amount is not entirely out of my pocket since I receive \$35 a month from the tenants living in my first floor apartment. This reduces the rent of my own apartment to \$18.08 a month, plus taxes and the interest on the thousand dollars I owe my bank and I am gradually diminishing this loan.

I have no difficulty in renting my apartment since its attractive features make an appeal not only to housewives but also to the man of the house. Men looking at the apartment say the living room and yard are all they need to see, and the simple plain wood work, which will not demand constant care, the huge closet space, unusual in apartments, make each housewife feel she has found a treasure.

There was once a time when I felt sorry for people with a *mortgage*, but now I glory in mine. I wish all my fellow teachers and salaried women could know the happiness and comfort obtainable through *A Home with an Income*.

AN APPEAL TO WOMEN

FROM THE SECRETARY OF AGRICULTURE

To the Women of the United States:

Every woman can render important service to the Nation in its present emergency. She need not leave her home or abandon her home duties to help the armed forces. She can help to feed and clothe our armies and help to supply food to those beyond the seas by practicing effective thrift in her own household.

Every ounce of food the housewife saves from being wasted in her home—all food which she or her children produce in the garden and can or preserve—every garment which care and skillful repair make it unnecessary to replace—all lessen that household's draft on the already insufficient world supplies.

To save food the housewife must learn to plan economical and properly balanced meals which, while nourishing each member of the family properly, do not encourage overeating or offer excessive and wasteful variety. It is her duty to use all effective methods to protect food from spoilage by heat, dirt, mice, or insects. She must acquire the culinary ability to utilize every bit of edible food that comes into her home. She must learn to use such foods as vegetables, beans, peas, and milk products as partial substitutes for meat. She must make it her business to see that nothing nutritious is thrown away or allowed to be wasted.

Waste in any individual household may seem to be insignificant, but if only a single ounce of edible food, on the average, is allowed to spoil or be thrown away in each of our 20,000,000 homes, over 1,300,000 pounds of material would be wasted each day. It takes the fruit of many acres and the work of many people to raise, prepare, and distribute 464,000,000 pounds of food a year. Every ounce of food thrown away, therefore, tends also to waste the labor of an army of busy citizens.

Clothing is largely an agricultural product and represents the results of labor on the sheep ranges, in cotton fields, and in mills and factories. Whenever a useful garment is needlessly discarded material needed to keep some one warm or dry may be consumed merely to gratify a passing fancy. Women would do well to look upon clothing at this time more particularly from the utilitarian point of view.

Leather, too, is scarce and the proper shoeing of armies calls for great supplies of this material. There are only so many pairs of shoes in each hide, and there is a shortage of animals for leather as well as for meat. Anything that can be done to encourage adults or children to take care of their shoes and make them last longer means that so much more leather is made available for other purposes.

Employed women, especially those engaged in the manufacture of food or clothing, also directly serve their country and should put into their tasks the enthusiasm and energy the importance of their product warrants.

While all honor is due to the women who leave their homes to nurse and care for those wounded in battle, no woman should feel that, because she does not wear a nurse's uniform, she is absolved from patriotic service. The home women of the country, if they will give their minds fully to this vital subject of food conservation and train themselves in household thrift, can make of the housewife's apron a uniform of national significance.

Demonstrate thrift in your homes and encourage thrift among your neighbors.

Make saving rather than spending your social standard.

Make economy fashionable lest it become obligatory.

THE EMERGENCY COMMITTEE OF THE AMERICAN HOME ECONOMICS ASSOCIATION

The following letter has been sent to members of the Emergency Committee:

The Council has appointed this Committee to act during the war as an advisory body. Home economics has come into its own, if it only has the vision to see its opportunity and the ability to profit by it. For a generation those working in the home economics field have been trying to rouse the country to a sense of the importance of its field. Now the whole world is calling for help in the very essentials of our work—the proper storage and use of food, the elimination of waste of every kind, the choice and conservation of clothing, the sanitary conditions of daily living and, far above them all in importance, the realization by women of their responsibility for the health and happiness of American homes.

The call finds us prepared with knowledge and the desire to help. But the great majority of us have professional work that fills our days to the overflowing. It is not possible for us to serve on the thousand committees of home economics that are springing up in every organization of women. It therefore seemed wise for us to form this national committee to act as *advisers* to those who need help. We must further form local committees as need arises and workers are available.

The work of this Committee must be conducted by correspondence and every member can help by sending in suggestions. Here are some points for immediate consideration.

Office. The New York City Section of the Emergency Committee is financing an office at 19 West 44 Street, and generously offers the National Committee this office as an address and a limited amount of clerical work. If the work grows, some fund for clerical service, postage, and printing will be necessary. As soon as we have had experience enough to know what sum will be needed, I will take further steps in the matter.

The office in New York will refer inquirers in different parts of the country to the nearest member of the Committee, or to the local committee where there is one.

Local committees. It is most important to form these wherever possible and to publish the names in the local press. Please remember the following points:

1. The formation of any local committee must be authorized by some member of the national committee, but she can appoint some other person chairman, if it seems best.
2. The organization of each local committee must be reported *at once* to 19 West 44 Street, with the names of the committee and address of chairman.

National League for Women's Service. This organization has asked our coöperation as an advisory body, and we have promised it. The chairmen of our local committees should get in touch as soon as possible with the local chairmen of the N. L. W. S.

Food conservation. Your chairman is in correspondence with Dr. Langworthy and Miss Van Rensselaer about the issue of a pamphlet giving titles of available pamphlets on canning and preserving and adding directions as to drying fruits and vegetables. It is imperative to have something in print on this subject soon. In the meantime, will all members of the committee please give the widest publicity to the following points:

1. The housekeeper should form the habit of preserving even small quantities of fruit and vegetables that might otherwise spoil by over-ripening or decay. She must be prepared to do this work daily if necessary.
2. Fruits and vegetables that can be preserved by drying should be dried, in order to save containers.

3. Jelly should not be made, but the fruit juice bottled. This gives a use for narrow-necked bottles, and the juice can be used later for jelly or other purposes.

4. All containers of any kind should be collected. If it is possible for you to collect such from city people who would not use them, ask your state department of agriculture if they will gather and distribute.

5. Have a lot of typewritten slips made with the following information, and distribute where needed. Send to your local press.

Free from United States Department of Agriculture, Washington, D. C. Farmers Bulletin 203, Canned fruits, preserves, jellies. Farmers Bulletin 359, Canning vegetables in the home.

6. Send me *at once* any recipes you have for preserving fruit and vegetables by any other method than canning.

7. Send me *at once* suggestions as to what we can do to be useful.

I am writing today to Secretary Houston and Mr. Hoover, offering the services of this committee in any way possible.

Very truly yours,

ISABEL ELY LORD,
Chairman.

May 4, 1917.

SOME GOVERNMENT HELPS

Are you using the Food Thrift Series issued by the Department of Agriculture, and the Home Economics Letters of the Bureau of Education?

We should today avail ourselves of every bit of work that already has been done that we may use it, add to it, and pass it on.

FOR THE HOMEMAKER

THE HIGH COST OF LIVING. I

MARY HINMAN ABEL

"How shall we meet the advance in the high cost of living when there is no advance in our incomes" is a question heard again and again. It comes with most insistence and most reason from those who are living on small salaries, such as ministers, teachers, and clerks. "The laborer can live as cheaply as he must, the farmer can reduce his personal expenditure to equal his income, but the salaried worker must live up to certain conventions of dress and surroundings at peril of forfeiting the chance to earn a living." It is this class that have had the hardest time in the belligerent countries. The laborer in all countries has had plenty of work at high wages, but the low salaried man has had to meet rising prices without any added income. Even the laborer's wage has not kept pace with the phenomenal increase in prices during the last few months.

The causes of this increased cost are many and we have all learned by this time that the wise ones do not agree as to the proportion of blame to be laid on each factor.

If the money standard has changed on account of a gold surplus, the price of all commodities, including the services we give in exchange for our wages and salaries, must in time rise also, but the rise in incomes will be slow except in the case of the poor whose very existence depends on the pay envelope. Meanwhile what?

There are causes which the individual has little power to change. There are others that come somewhat within his power. Let us confine our inquiry to food, since that is the pressing question, although we know that rents must advance, because all that goes into the building of a house has increased in price, and clothing is sure to feel the advance in material and labor.

The causes of rise in food prices over which the individual has no power are:

1. Decrease in supply, by reason of poor harvests, or because there are fewer animals to be slaughtered for food, or because of exportation to foreign countries.

2. Increase in the first price of food because of higher wages paid to farm laborers.

The causes which may be said to be directly, or by combination, under our control are most of them not new. They have been in operation for years and only because of extraordinary conditions have they now come into the limelight. They are:

1. The extremely wasteful methods of distribution of food, beginning with the apparent inability of farmers to work together by any co-operative plan, as farmers in Europe have learned to do, so that conditions of the market would always be known to them, and waste avoided by not sending food products to a market already glutted. These wasteful methods are also seen in the lack, in our large cities, of terminal facilities, with cold storage cellars, near the public markets, thus making necessary many costly reloadings with consequent deterioration in food quality; also in the too large number of middlemen through whose hands the produce must go, each taking his toll for service. Philadelphia pays \$225,000,000 for its food annually; of this sum \$75,000,000 goes to transportation and middlemen.

2. The inefficient inspection of weights and measures in our stores and markets is also a tax on the purse of the buyer.

3. Still nearer home comes our inability as housekeepers to use coöperative measures in buying food, nor can we deny the charge of undue luxury and carelessness by which food, that valuable thing on which the existence of nations depends, is wasted.

Ignorance of the foods themselves and of the method of production means inefficient buying. For instance, by what methods of education are we to persuade the buyer to become really intelligent regarding cold storage, that most valuable of all modern inventions for providing perishable food in fine condition and at fair prices thousands of miles from the place of production and months after the natural season? How many of us know that but 1 per cent of the eggs coming into the large seaboard cities come from near by; that the entire food supply of New York averages a four days' haul by fast freight; that nearly all the butter is made between May and November; that the catch of fish between December and March is so small that only by help of cold storage can the market be supplied in those months? For the housekeeper who requires her fish "fresh caught" in January the dealer thaws it out, and its swift deterioration follows.

What can be done to improve these conditions? The Editor of the JOURNAL promises its readers articles on these topics.

SOY BEAN COOKERY¹

NELL BEAUBIEN

High prices and the shortage of many of the staple foods make welcome the suggestion that the soy bean, a food heretofore used in America only for feeding stock, may be made into palatable dishes. These legumes are particularly rich in fat and protein, containing an average of 35 per cent of the latter, which is nearly twice the amount present in meat. For this reason, the soy bean may be used not only to take the place of the more expensive white bean, but also of meat and other foods rich in protein.

Unlike the white bean, these lack starch and, therefore, their method of cookery is somewhat different. The addition of a little flour or corn-starch during the cooking gives the liquid surrounding the beans a consistency similar to that produced by the white bean.

Three varieties of the bean, black, green, and yellow are common. All of these may be used. The black and green are particularly good for soup, while the yellow is best adapted for baking. The addition of a few white beans, especially in baking, improves both flavor and consistency. The green soy beans correspond more nearly to the lima in flavor and, hence, are frequently served as a vegetable.

Following are recipes suggesting some of the various ways in which the soy bean may be prepared:

BLACK SOY BEAN SOUP

1 pint black soy beans	$\frac{1}{8}$ teaspoonful pepper
2 quarts cold water	$\frac{1}{4}$ teaspoonful mustard
1 small onion	2 tablespoonfuls butter
2 small stalks celery	2 tablespoonfuls flour
1 teaspoonful salt	2 hard boiled eggs
	1 lemon

Soak beans over night; in the morning drain, add celery and cold water. Cook four hours or until tender. Cut onion in thin slices and brown slightly in the butter, add flour, seasoning, and bean water and pulp. Reheat to boiling, strain and pour over the egg and lemon which have been cut into slices.

¹ This work was prepared under the direction of Dr. Amy Daniels at the University of Wisconsin.

GREEN SOY BEAN SOUP

1 cup green soy beans	1 quart milk
2 tablespoonfuls butter	1 teaspoonful salt
2 tablespoonfuls flour	$\frac{1}{2}$ teaspoonful pepper

Soak beans twelve hours; drain and cook in water four hours or until tender, then rub through sieve. Brown the chopped onion in the butter, add flour, milk, and bean pulp; boil one minute, stirring constantly; season and serve.

GREEN SOY BEANS

Soak beans at least twelve hours; drain and boil, in enough water to cover, about four hours or until tender. Allow most of the water to evaporate during the cooking. When tender, add butter, salt, pepper and serve.

YELLOW SOY BEAN SOUFFLÉ

1 cup yellow soy beans	1 teaspoonful salt
2 tablespoonfuls butter	$\frac{1}{2}$ teaspoonful pepper
4 tablespoonfuls flour	2 or 3 eggs
1 cup milk	

Soak beans and cook in boiling water until tender, about four hours; drain and rub through a strainer. Melt butter, add flour and milk and boil one minute, stirring constantly; add 2 cups of the bean pulp, cool and add the beaten egg yolks and seasoning. Beat the whites of the eggs until stiff and fold into the bean mixture. Put in a buttered baking dish and bake in a moderate oven thirty minutes.

BAKED SOY BEANS

1½ cups yellow soy beans	$\frac{1}{2}$ teaspoonful mustard
$\frac{1}{2}$ cup white beans	1 small onion
$\frac{1}{2}$ cup sugar	$\frac{1}{2}$ pound salt pork

Soak beans twelve hours, put into baking dish in which the salt pork, onion, sugar, and mustard have been placed. Cover with cold water, and cook in a slow oven at least twelve hours. Add water as needed.

Soy beans alone make a palatable dish when baked. In this case two tablespoonfuls of flour should be added with the sugar to give the desired consistency.

THE CARE OF YOUNG CHILDREN

The Children's Bureau is issuing a series of weekly letters on the Care of Young Children. These letters are invaluable to the mother who finds it difficult to get the information she needs.

The first three are on food.

Much of the illness and suffering among babies commonly attributed to the "second summer" or to teething is actually due to errors in feeding. The baby's delicate digestive mechanism, accustomed to dealing only with milk, can not all at once undertake the task of adjustment to a varied diet of solid foods, but must be strengthened by the gradual addition of new foods until the organs are trained to more complicated operations. The safe rule for feeding the baby is to add but one new food at a time to his dietary; to watch carefully the effect of each one and to withdraw it and return to the simpler diet at the first sign of trouble. These rules are particularly important in summer, when a baby is more readily upset.

The following list shows the day's meals for a baby in his second year.

7 a.m. Milk (quart should be used during the twenty-four hours.)
Zwieback, toast, or dried bread.

9 a.m. Orange juice.

10 a.m. Cereal (well cooked); cup of milk.

2 p.m. Broth; meat (about 1 tablespoonful scraped or minced), or a soft boiled or coddled egg. Vegetable (such as spinach or tender green beans, strained after cooking.) Baked apple, or prune pulp.

6 p.m. Cereal; milk; toast or bread.

10 p.m. Milk (may be omitted).

At the beginning of the third year more solid food may be added, especially meats¹ and vegetables.

Meats, if used, should be beef, boiled, broiled, or roasted; lamb chops; the white meat of chicken; or delicate fish. All meat should be free from fat, gristle, or bone, and should be finely minced.

Eggs should be soft boiled, coddled, or poached, or soft scrambled,

¹ There is a difference of opinion in regard to the age when meat should first be given, Mrs. Mary Swartz Rose says, "With milk freely supplied and an average of one egg a day, there is no call for the introduction of meat into the diet until after a child is seven years old, and on the other hand, there are several good reasons for withholding it during these early years."—*Feeding the Family*, p. 139.

never fried. The grated or mashed yolk of a very hard boiled egg may sometimes also be used.

Meat broths may be thickened with arrowroot or corn starch, and become a valuable food, especially if milk is added. Well-cooked vegetables, strained and added to warm milk, are not only good foods but serve to teach the child to like vegetables.

Cereals should be thoroughly cooked and served with milk or thin cream and a very small amount of sugar or none.

Bread for a child should be at least two days old. Toast, zwieback, or hard crackers may be given once or twice a day.

Baked potatoes moistened with a little butter, thin cream, beef juice, or platter gravy may be given.

Asparagus tips, spinach, stewed celery, squash, string beans, carrots, young peas, well-cooked and mashed, or strained, are all good, and a small portion of one of these may be a part of the child's dinner each day.

Fruits should be continually used, especially sweet oranges, baked apples, or stewed prunes. The juice or mashed pulp of fresh ripe pears or peaches may be given in the third year, but there is much danger in using overripe or green fruit, as well as in giving too much. It is especially necessary to be careful in hot weather when fresh fruit decays rapidly.

During the fourth year, milk still remains an important part of the child's food. Some children object to drinking milk, but it may be given in the form of bread and milk, milk soups, or milk puddings, or it may be poured over the cereal. The cereal need no longer be strained but must be well cooked. More vegetables and fruits should be used. Eggs, meat, or fish, should be given at least once a day. No nibbling should be permitted between meals. A child should be taught to come to the table with that vigorous appetite for his food which leads to good digestion and assimilation. Young children should not be offered "tastes" of the family meals.

Children should have an abundance of pure cool drinking water.

Never under any circumstances should children be given coffee, tea, or strong cocoa. They should have no highly seasoned or spiced foods, rich pastries, raw vegetables, onions, corn, or cabbage. Bananas and all partly ripened fruit are apt to make trouble.

If children are inclined to be constipated they should have plenty of laxative foods: cereals, particularly oatmeal; the coarser breads, such as graham and whole wheat; fruit or fruit juice, particularly oranges and prunes; and vegetables like string beans, asparagus, and spinach.

MILK AND SKIMMED MILK

HOUSEHOLD ECONOMICS DEPARTMENT, SIMMONS COLLEGE

The price of milk has advanced so much in the last few years that many people regard it as an expensive luxury. As a matter of fact the liberal use of milk, even at its present price, is the best device for reducing the total expenditure for food, provided it is used as it should be, as a substitute for meat, fish, and eggs. It is not overstating the matter to say that the smaller the amount of money which can be expended for food the more important it becomes that a suitable amount of milk shall be used if the diet is to be well-balanced. If the breakfast food is cooked in milk and served with milk, the meal is well-balanced without the use of eggs or meat. If milk is used in the preparation of desserts, such as Indian pudding or cornstarch pudding, or if the vegetable is creamed or scalloped, it is not necessary that meat, eggs, or fish should be served so liberally in the main course at dinner, as is the custom in many families. A soup or chowder serves as a suitable nucleus for the third meal of the day, whether it be lunch or supper.

If all of this is true of milk, it is doubly true of skimmed milk,—a food which merits very serious consideration from the housewife who must reduce expenses. Skimmed milk is poor in fat but it contains all the other valuable constituents which make it a substitute for meat or eggs. Furthermore, if it can be obtained at all it can be purchased at such a low price that it is possible to use it very liberally in the preparation of soups, creamed and scalloped dishes, beverages, desserts, or any dish which is ordinarily made with whole milk. The most advantageous way to buy skimmed milk in Boston is in the eight and a half quart can which may be purchased for twenty-five cents. This is a practical procedure for most families, if the can is divided between two families or perhaps bought every other day. In New York it is against the law to sell skimmed milk. Every effort should be made to bring about the repeal of such laws. Even if skimmed milk is used liberally, whole milk should be bought for the children at least a pint a day for each child.

The following suggestions are given for the use of skimmed (or whole) milk in cream soups, creamed and scalloped dishes, and desserts. These three types have been chosen because they permit of wide variation in flavor. Other common uses for milk are in making cottage cheese, and chowders.

CREAM SOUPS

1 quart skimmed milk	$\frac{1}{4}$ cup flour
$\frac{1}{4}$ cup oleomargarine, butter, or meat fat	2 teaspoonfuls salt

Melt the fat and stir into it the flour. When these are thoroughly mixed, add the cold milk and heat until the flour is cooked, stirring constantly until the milk boils. Onion or other flavor may be added.

This thickened milk may be used as the foundation for any kind of cream of vegetable soup by adding mashed vegetable with enough of the water in which it has been cooked to give the consistency of the thickened milk. A desirable flavor can be obtained with as small a quantity as $\frac{1}{2}$ cup of the vegetable stock and pulp, especially strongly flavored vegetables as onion, cabbage, and turnip. As much as 1 quart of the more delicately flavored vegetables may be used.

If the mixture is beaten thoroughly with an egg beater just before serving, an attractive lightness may be obtained.

Vegetables used in this way may be potatoes, carrots, turnips, onions, cabbage, squash, peas, beans, corn, and tomatoes. Care should be taken not to reheat the tomato soup after the tomato is mixed with the milk.

In preparing fresh vegetables for soup, the uncooked vegetable should be cooked in enough boiling, salted water to cover, and water and vegetables put through a puree sieve before adding it to the milk. It is much better, however, to plan for the soup when the vegetable is served as a vegetable, cooking a little more than is needed for the meal and saving, for the soup, the remaining with the water in which the whole has been cooked.

To this thickened milk may be added $\frac{1}{2}$ cup peanut butter to make peanut soup. Add $\frac{1}{2}$ cup cheese cut in small pieces to make cheese soup.

CREAMED OR SCALLOPED VEGETABLES OR FISH

1 quart skimmed milk	$\frac{1}{2}$ cup flour
$\frac{1}{2}$ cup oleomargarine, butter, or meat fat	2 teaspoonfuls salt

Melt the fat and stir into it the flour. When these are thoroughly mixed, add the cold milk and cook until the flour is cooked, stirring constantly until the milk boils. Onion or other flavor may be added.

This thickened milk may be used with any cooked vegetable, fish, meat, macaroni, rice, slices of toast (either whole wheat, graham, or white bread) to make a creamed dish.

The vegetable should be cooked in boiling, salted water and then cut into half inch cubes or small pieces. One quart of the cooked vegetables should be used for the amount given. If the vegetable is hot, the thickened milk may be poured over the food. If the food is a left over, it may be warmed up in the sauce.

Variation of the plain creamed food may be made by melting one-quarter cup of cheese cut in small pieces in the thickened milk. This flavor is good with rice, macaroni, potato, cabbage, or toast.

The creamed food may also be put in a buttered baking dish, covered with buttered crumbs and baked in the oven until the food is hot and the crumbs are browned. This is then called a scalloped vegetable, fish, meat, macaroni, or rice.

BUTTERED CRUMBS

$\frac{1}{2}$ cup bread crumbs

1 tablespoonful oleomargarine, butter, or
meat fat

Prepare the crumbs by drying stale bread, crushing, and sifting. The crushing may be done by grinding in a food cutter or rolling on a bread board. The sifting may be done with a puree strainer. Melt the fat and pour in the crumbs. Stir until thoroughly mixed.

DESSERTS

For dessert the skimmed milk may be thickened, sweetened, and flavored to make puddings.

The thickening material may be any starchy substance, as flour, corn-starch, cereals, or it may be bread crumbs, eggs, or gelatin. Following are a few examples with variations.

BREAD PUDDING

2 cups stale bread crumbs

1 egg

1 quart scalded skimmed milk

$\frac{1}{2}$ teaspoonful salt

$\frac{1}{2}$ cup sugar

$\frac{1}{4}$ cup melted butter, or oleomargarine

Soak bread crumbs in milk; add sugar, butter, egg slightly beaten, and spice; bake one hour in buttered pudding-dish in slow oven.

Variations. Melt 2 squares of chocolate and add to it the scalded skimmed milk. [If a teaspoonful of sugar and a little milk or water are slowly stirred into the melted chocolate till it is smooth and glossy there will be less danger of its flaking or separating when the milk is

added to it.] Caramelize 3 tablespoonfuls of sugar; dissolve in hot water to make a syrup and add to the scalded skimmed milk.

RICE PUDDING

1 quart skimmed milk
 $\frac{1}{2}$ cup rice

$\frac{1}{2}$ teaspoonful salt
 $\frac{1}{3}$ cup sugar

Wash rice, mix ingredients, and pour into buttered pudding-dish; bake three hours in very slow oven, stirring three times during the first hour of baking to prevent rice from settling.

Variations. One cup raisins may be added to make *Rice and Raisin Pudding*. Two tablespoonfuls sugar may be caramelized, dissolved in hot water, and added to the milk to make *Caramel Rice Pudding*.

The flavor may be changed and cost reduced by substituting $\frac{1}{3}$ cup molasses and $\frac{1}{2}$ teaspoonful cinnamon for the sugar.

CORNSTARCH PUDDING

1 quart skimmed milk, scalded
 $\frac{1}{2}$ cup cold skimmed milk
 $\frac{1}{2}$ cup cornstarch

$\frac{1}{4}$ teaspoonful salt
 $\frac{1}{4}$ cup sugar
1 teaspoonful vanilla

Mix cornstarch, sugar, salt, and cold skimmed milk. Add to scalded skimmed milk, stirring constantly until mixture thickens, afterwards occasionally; cook until raw starch taste disappears. Turn into a wet mold and cool. Unmold and serve.

Variations. Melt 2 squares of chocolate and add to the scalded skimmed milk.

Caramelize 3 tablespoonfuls sugar, dissolve in hot water to make a syrup and add to the scalded, skimmed milk.

INDIAN PUDDING

5 cups scalded skimmed milk
 $\frac{1}{2}$ cup Indian meal

1 teaspoonful salt
1 teaspoonful ginger
 $\frac{1}{2}$ cup molasses

Pour skimmed milk slowly on meal, cook in double boiler twenty minutes, add molasses, salt, and ginger; pour into buttered pudding-dish and bake two hours in slow oven. Ginger may be omitted.

Variations: One tablespoonful oleomargarine may be added to improve the flavor. Any ground cereal may replace the cornmeal to vary the flavor.

TAPIOCA PUDDING

1 quart skimmed milk
 $\frac{3}{4}$ cup tapioca

speck salt
 $\frac{3}{4}$ cup sugar

Add tapioca, sugar, salt to the milk and cook until granules are clear and milk is absorbed. If more liquid is needed, add by the tablespoon. Pour into wet molds. Chill, unmold, and serve.

Variations: Two squares of chocolate may be melted and added to the mixture as soon as it is hot.

LEMON MILK SHERBET

1 quart skimmed milk

$\frac{1}{2}$ cup syrup

1 cup lemon juice

Combine lemon juice and syrup, and gradually add the milk. If added too rapidly, or without constant stirring, the mixture will have a curdled appearance. Freeze.

Variations: Other sweetened fruit juices may be substituted for the lemon juice and syrup. The taste is a sufficient guide for quantity.

JUNKET

1 quart skimmed milk
 $\frac{1}{2}$ cup sugar

2 junket tablets
 $\frac{1}{4}$ cup cold water
 1 teaspoonful vanilla or spice

Heat the milk until lukewarm (not more), add sugar and flavoring; when sugar is dissolved add the tablet dissolved in the cold water. Pour mixture immediately into sherbet cups. Stand in warm room undisturbed until firm like jelly. Cool and serve.

Variations: Three tablespoonfuls sugar may be caramelized, dissolved in hot water, boiled to a thick syrup, cooled, and added to the milk.

One-quarter cup cocoa may be cooked in $\frac{1}{4}$ cup boiling water, cooled, and added to the milk.

IVORY JELLY

$1\frac{1}{2}$ tablespoonfuls granulated gelatin
 $\frac{1}{2}$ cup cold skimmed milk
 $2\frac{1}{2}$ cups scalded skimmed milk

$\frac{1}{4}$ cup sugar
 $\frac{1}{4}$ teaspoonful salt
 $\frac{3}{4}$ teaspoonful cinnamon

Swell gelatin in cold skimmed milk and dissolve in scalded skimmed milk. Add sugar, salt, and cinnamon. Strain into mold and chill.

STUDENTS' CONTRIBUTIONS

OLD METHODS AND NEW CONDITIONS

JESSIE H. HURD

Indiana University

With not only the other nations but our own country at war, women and children must fight their battles on the farms, in the gardens, and in the kitchens. There is a demand for better, larger, and more economical food production. Not all of this food can be used when it is in season. Some, it is hoped a great portion, must be preserved; yet there will be a great shortage of tin cans this year because of the war, and glass cans have already greatly increased in price. There will be no use in making this the banner year in food production if we can not take care of the food. Here is the problem that women must solve.

The suggestions made here are practical and useful. Nothing is offered that has not been tried and found to work.

Let us divide the discussion into two parts, namely, "Can substitutes," and "Preservation by drying." We know that it is possible to preserve many things by drying, for our fore-fathers knew no other way.

I. CAN SUBSTITUTES

A. Commercial tin cans

The cans we buy at the grocery in which our beans, peas, and corn are canned, or, in other words, all of the cans which have small soldered-on lids may be used again. The lids may be melted off, the cans cleansed, and then resoldered when filled. To remove the lid melt the solder by heating it with a red hot coal or a small, hot iron stove lid. In removing the lid be careful not to bend or nick it in any way. The molasses and Crisco cans and buckets may be reused also. To seal fill the crease between the lid and can with sealing wax.

B. Commercial glass cans and jars

The large cans in which jellies, and preserves of all kinds are put up may be used again by placing a piece of card board and wax paper in the

lid and dipping the tip in melted paraffin after the lid is screwed on, thus excluding all of the air.

The most familiar can of this kind is perhaps the peanut butter jar. The large olive and pickle cans may be used in the same manner. Large earthen jars in which jams, butters, and jellies are put up may also be used. In this case the lids fit as in the cans bought for canning purposes and must be sealed with either sealing wax or paraffin. The writer prefers the sealing wax. Do not try to keep fruit in these earthen jars when the weather is very warm. Can the last fruit in the fall in them and then use these jars first in the winter.

C. Bottles

Fruit juices which we wish to save for mincemeat and jelly-making are very nicely preserved in large narrow necked bottles. The cork must fit the bottle snugly and the whole top be dipped into melted sealing wax. This prevents the air entering the bottle even by means of the air passages in the cork.

To open such a bottle strike the wax near the cork with a small hammer or an iron handled knife. The cork receives the jar of the blow and the neck of the bottle is not injured. When the wax is once started it comes off very easily. Do not try to melt it off with a hot stove lid or even with hot water, for the danger of breaking the bottle is great.

D. Jars

For some purposes large stone jars may be used if covered with an inverted plate which has a smooth round edge and which will just fit into the jar. Seal with sealing wax.

Everyone should save all cans and bottles and either use them or see that they are given or sold to some one who will use them. The government has asked that we can nothing which may be dried, such as lima beans or corn, thus saving the cans for perishable goods.

One large factory has stated that it will sell cans only for perishable foods.

II. PRESERVATION BY DRYING¹

A. Equipment for drying

For drying in the oven, the oven should be as large as possible and only slightly heated, but enough to prevent the souring of the food.

¹There are now upon the market several cook stove driers costing about six dollars each.

There should be a rack made of some thin, firm boards such as laths. The laths are nailed at each end and in the middle to another lath. Air spaces are left between each of the laths. The rack should be just large enough to fit the oven. There should be a piece of iron or of tin to keep it from touching the bottom of the oven because of the danger of burning. A horse shoe, a lid from the coffee can, or a meat rack will do. Large dripping pans may also be used as racks. Plenty of clean white paper should be spread on the bottom of the rack.

The contents should be stirred often in order that they may dry more evenly. When the surface of the substance feels dry to the hand the inner parts may still be damp. Remove from the rack, put in a cloth bag and hang behind the stove to finish drying. Never put in a paper bag because the air can not circulate through this, and the dampness will cause the substance to mold.

To prepare these dried foods for the table, soak in warm water in a warm but not hot place for several hours, then boil only a few minutes. Long and hard boiling toughens the vegetables.

Some people put their racks on a metal roof to dry. This is very good and is utilizing nature's forces, but care must be taken to protect the food from flies and to remove the rack from the roof when it is cloudy; otherwise the food is very apt to sour. However, it is perfectly possible to keep it upon the roof when the sun is very bright and warm, then take from the roof to the oven when cloudy and at night.

B. Preparing different kinds of food for drying

Dried pumpkin. Rind, take out the seeds, cut into small pieces, and cook in water until soft; then dry out as much as possible without burning. Spread in rack on a clean paper. Follow directions given above. Be sure not to let it dry in one large flat chunk. It will dry more easily if not left in so large a piece.

Dried corn. Husk, silk, drop in hot water and leave just long enough to scald the milk. Take from the water and cut it from the cob. The writer never bothers to split the grains but there is no objection to doing so. Be sure not to cut any of the cob into the corn. Spread on the rack on clean white paper and follow general directions for drying. Even an ear of corn left over from a meal may be easily dried.

The corn for canning must not be permitted to lie over night, husked or unhusked, but with corn for drying it makes no difference so long as it is not sour.

When preparing this corn for a meal soak for at least three hours in warm water in a warm place but not in a hot one. Boil for not more than ten minutes in the same water. Season with salt, pepper, and a sprinkle of sugar. Make a white sauce or serve with butter. After it is soaked this corn may be used in the same way as any canned or fresh corn.

The main point to be observed is not to hurry the soaking by boiling because this only toughens the corn.

Dried apples. Pare, core, and cut into thin slices. If the apples are dirty wash them before paring but not after. Spread on rack on clean white paper and put into oven to dry. Proceed as in general directions for drying. If a more fancy dish is desired the apples may be cored, strung upon a string, and then hung up to dry.

Some people always string their apples, but in order to do this great care must be taken or the apples will slip too close together and when drying will become heated and sour.

Dried green beans. Wash and drain green beans and cook until half done; drain again and put on rack on clean paper. Proceed according to general directions.

Any plump bean such as "cut shorts" may be gathered when about half ripe and dried without any cooking, and then cooked in the same way as the navy beans.

C. Drying house

This house was used long ago before our fore-mothers had ovens and when there were so many trees that there was no very large available sunshiny place for drying.

It consists of a narrow long room about 6 or 8 feet wide, and 12 to 18 feet long. A heating stove of some sort is located in the middle of the room. Shelves above the level of the stove are built on each side and at the end opposite the door. In this house there are no openings except the door.

The racks are set on the shelves in this house. These foods must be stirred often and the racks turned as often. The house must be hot enough so that the food will dry and not sour. The temperature should be at least 125°F. There is no danger of the food burning in this house. The advantage of the drying house is that the food may be handled in much larger quantities than in the oven.

EDITORIAL

An Agricultural Bill that Should Help Home Economics.—

One of the most important bills now before the United States Congress concerns the proposals of the Secretary of Agriculture for increasing production, improving distribution, and promoting conservation of food supplies. These proposals were emphasized by the conferences of agricultural representatives of 32 states held at St. Louis, Mo., April 9 and 10, and of 7 states held at Berkeley, Cal., April 13, and it was requested that additional funds be furnished the Department of Agriculture to carry out its program.

One of the most imperative needs of the Government in dealing with the food situation, both from the standpoint of Congress for purposes of legislation and from that of the executive departments in administering the laws, is adequate power to secure accurate and complete information at all times regarding the food supply.

This power is recommended in the bill. It also recommends

That the Secretary of Agriculture is authorized to take such measures, to use such means, and to employ such existing or additional agencies of the Department of Agriculture, as he finds necessary, to stimulate the production, to promote the conservation and utilization, and to facilitate the distribution of foods.

It asks for coördination between the different departments of the government to avoid duplication of work, and for coöperation with state and local officials, and such public and private agencies or persons as he finds necessary.

The bill also provides

For increasing food production and eliminating waste and promoting conservation of food by educational and demonstrational methods, through county, district, and urban agents and others.

* * * * *

For enlarging the informational work of the Department of Agriculture; and printing and distributing emergency leaflets, posters, and other publications requiring quick issue or large editions.

The need for such teaching, great as it always is in normal times, is most urgent in the present emergency when only intelligence in buying and skill in preparing the family food can conserve our resources. It is especially necessary that the family of small income obtain this

knowledge, and it can be given them by means of leaflets written in popular language, through the work of the Visiting Housekeeper, and of public demonstrations. For such work there is at present no provision in cities. When food becomes scarce and high our city population needs such education even more than do people living in the country.

The Secretary of Agriculture asked for an appropriation of about \$25,000,000, including the salaries of two new assistant secretaries. The Lever Bill H. R. 4188 calls for \$18,510,000.

Every influence should be brought to bear in favor of the passage of this or a similar bill.

NOTICES

The American Home Economics Association will hold a meeting in connection with the National Education Association in Portland, Oregon, Tuesday July 10, 1917, Dean Catharine J. MacKay, Iowa State College, presiding.

MORNING SESSION

Address and Greetings from the American Home Economics Association,
Dean Catharine J. MacKay.

Service to be Rendered the Country by Home Economics Teachers,
Mrs. Henrietta W. Calvin, Specialist in Home Economics, Bureau
of Education, Washington, D. C.

Sequence and Correlation in the Teaching of Home Economics in the
Public Schools, Mrs. Ellen P. Dabney, Supervisor of Home Eco-
nomics, Public Schools, Seattle, Wash.

Scope of Home Economics and Its Subject Matter in University and
College Courses, Miss Alice Ravenhill, Professor of Household
Economics, Utah Agricultural College.

AFTERNOON SESSION

The value of home demonstration work.

Miss Edith Parrott, State Agent for South Carolina.

What the Association Can Do to Decrease the Death Rate of Children
in America, Mrs. Max West, Children's Bureau, Department of
Labor, Washington, D. C.

The Influence of the Trained Consumer in Raising Standards, Mrs. Mary Schenck Woolman,
Association Headquarters—Seward Hotel.

NATIONAL CHARITIES AND CORRECTIONS CONFERENCE

Pittsburgh, Pa., June 6-13, 1917

Social Problems of the War, the Family and the Community, Health, Rural Social Problems, Community Programs, all these are topics of distinct interest to home economics workers. They are to be discussed in detail at sectional and general meetings during the National Charities and Corrections Conference in Pittsburgh, June 6-13, and members of the American Home Economics Association are cordially invited to attend.

At the session of the Health Section Dr. Graham Lusk, Miss Lucy H. Gillette, and Dr. C. L. Alsberg will speak on food and nutrition problems. Friday evening, June 8, Mr. Herbert C. Hoover will speak. Special community programs will be given on June 9.

The Social Work Committee of the Association is arranging for a luncheon and round table meeting on June 9. Professor Benjamin R. Andrews of Teachers College will preside at the luncheon, and lead a discussion of "Home Economics in National Service: what can it give? and how?" Among the special speakers are to be Mrs. Mary Hinman Abel of Baltimore and Miss Florence Ward of the U. S. Department of Agriculture, Washington, D. C.

If Association members are unable to attend the entire conference, it is hoped that they may be able to come for this day's meetings which should prove so helpful and stimulating.

GRADUATE FELLOWSHIP IN HOUSEHOLD ADMINISTRATION

The trustees of the Ellen H. Richards Memorial Fund and the University of Chicago jointly offer a graduate fellowship of \$500 and tuition, to be used at the University of Chicago during the year 1917-1918. Candidates must hold a bachelor's degree and be equipped to do advanced graduate work in some phase of Household Administration.

Application for this fellowship should be made before August 1, 1917, to the Office of the Graduate Schools, University of Chicago, Illinois.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

The Home and the Family. By HELEN KINNE and ANNA M. COOLEY. New York: The MacMillan Company, 1917, pp. 292. \$.80. By mail of the Journal, \$.90. (Homemaking Series.)

The authors of this "elementary text book of homemaking" have used very successfully the device of giving adults much instruction and information while appearing to be working mainly to interest the children. This volume is a reader to be used as a supplement with two other volumes by these authors, "Food and Health" and "Clothing and Health."

In five chapters divided into thirty-three lessons, many of the principles of selection of furniture, color schemes, care of the house, care of the baby, division of time and of income, are presented in an interesting way. The authors, in addition, have made the volume in a sense a memorial to Mrs. Ellen H. Richards, and have called attention to many of the intangible elements of home and family life. It is an excellent book for both the school and the home.

ISABEL BEVIER,
Director of Household Science,
University of Illinois.

A Course in House Planning and Furnishing. By CHARLOTTE WAIT CALKINS. Chicago: Scott, Foresman and Company, 1916, pp. 79. \$.60. By mail of the Journal, \$.68.

In this book we have a definitely organized body of material, dealing with the practical application of art principles to the problems of house planning and furnishing. The topics include: those relating to house exteriors, including architecture, floor plans

controlling elevations, garden plans and mechanical perspective; those relating to house interiors, including walls, woodwork, doors, windows, pictures, floor covering, furniture and small objects.

The art principles are presented in three ways, through quotations from artists, through discussion, and through the solution of definite problems. Since the book is written for use by children, one feels, that in connection with each problem there should be a more concise statement of the art principle, which is the rule by which it may be solved.

The application of the art principles is made to practical topics, and in most of the problems, in a practical way. The popular interpretation of the practical application of art principles is that of considering use, durability, cost, including money, time and energy, and a knowledge of trade names as very vital factors modifying selection and arrangement. The author considers use and durability as controlling art principles but the influence of cost and a knowledge of trade names is not developed in connection with each topic.

The discussion of architecture deals with the relation of a building to its site, both in color, contour and material. This is purely from the art view point and leaves the student without a definite vocabulary for applying the appreciation, so gained, to the different types of architecture now in use in America.

This architectural form vocabulary, with the historic names, comes in the solution of the problems of elevations where students make tracings of types of American architecture as determining elevation designs.

The discussions of floor plans and elevations are the most complete and satisfactory topics in the text.

The topics dealing with the problems of interior furnishing are excellently handled. The examples which are presented as the basis for judgment are those to be found in the market today. However, here again is felt the lack of consideration given to practical facts. In planning the furnishing of a room, a knowledge of stock sizes of rugs, wearing qualities, width of curtain material, and cost of various wall treatments is of fundamental importance in buying and arranging.

ETHELWYN MILLER,

*Assistant Professor of Household Art,
School of Education, Univ. of Chicago.*

Letters to a Young Housekeeper. By JANE PRINCE. Boston and New York: Houghton, Mifflin Company, 1917, pp. 168. \$1.35. By mail of the Journal, \$1.43.

In this group of rather personal letters to an inexperienced young bride, Jane Prince discusses some of the stumbling blocks in the path of a young housekeeper. The particular problems discussed are those which the girl who has been brought up in a well-to-do family with many servants finds when trying to fulfill her duty as the wife of a man of very moderate income.

After dealing very briefly in the first two chapters with the question of economy and the budget, the author devotes the remainder of the book to a discussion of the management and duties of the servant or servants. The attitude of mistress to servant is discussed, and emphasis laid on the fact that duties must be clearly defined, with regular hours and sufficient and definite time out, for the maids. Outlines given for the week's work, for cleaning, for setting table and serving meals, could be followed by the woman doing her own work, although given here for the servant.

One chapter is devoted to the duties of servants in the household employing cook, waitress, and chambermaid, an outline being given for the daily work of each and arrangement for time off for each. The last chapter gives in detail arrangements for serving an elaborate dinner, requiring three

servants if there are eight at table, or five servants in case of twelve plates.

These letters are very readable and are suggestive. The writer has evidently learned by experience that a considerable part of the responsibility for the contentment of her servants rests with the mistress. Some of her suggestions might well be followed by more women who employ maids. The book does not claim to contribute anything particularly novel, and touches but one phase of the large problem of household management. It does, however, give to the woman with no training along these lines some idea of system in housework which can be applied by the woman who does her own work as well as by the one who employs a servant.

CHARLOTTE G. BAKER.

Emergency Work for Women, and other War Papers.

Columbia University Mobilization Committee on Women's Work, with Dean Gildersleeve as chairman, have been studying possible openings for women in emergency work, and are preparing leaflets. The first four are: Hospital Service, Elementary Nursing, First Aid and and Surgical Dressings; Emergency Social Service; Agriculture; Emergency Food Service.

Miss Gunther, of Teachers College, has acted as chairman of a sub-committee investigating lines of work for women, with courses being offered for special training.

Information regarding these different lines of work is given out at an Information Bureau, 301 Hall of Philosophy, Columbia University.

The Division of Intelligence and Publicity has published War Papers entitled: Enlistment for the Farm; Mobilize the Country-Home Garden; and Food Preparedness.

The Children's Food, By PROF. MARY S. ROSE of Teachers College, Columbia University, has been written especially for The National Special Aid Society, 259 Fifth Ave., New York City. They are anxious to place it in the hands of every mother, and have made the price as low as possible in order to be of service to the community.

Single copy 5 cents, 100 for \$2.50, 500 for \$10.00, 1000 for \$16.50.

BOOKS RECEIVED

- City Milk Supply.* By Horatio Newton Parker. New York: McGraw-Hill Book Company, 1917, pp. 493. \$5.00. By mail of the Journal, \$5.18.
- Dressmaking as a Trade for Women in Massachusetts.* By May Allinson. Boston: Women's Ed. and Ind. Union, 1916, pp. 180. (Vol. 4 of Studies in Economic Relations of Women). \$.80. By mail of the Journal, \$.86.
- Food and the Principles of Dietetics.* By Robert Hutchison. New York: 4th. Ed. 1917, pp. 617. \$4.00. By mail of the Journal, \$4.18.
- Laboratory Guide in Market Milk.* By H. E. Ross. New York: Macmillan Company, 1917, pp. 65.
- Minimum Cost of Living.* By Winifred Stuart Gibbs. New York: Macmillan Company, 1917, pp. 93. \$1.00.
- Opportunities for Women in Domestic Science.* By Mary Francke. Boston: Women's Ed. and Ind. Union. Published by Association of Collegiate Alumnae, 1916, pp. 64. (Vol. 1, pt. 3 of Studies in Economic Relations of Women). \$.80. By mail of the Journal, \$.85.

PAMPHLETS RECEIVED

The following pamphlets may be obtained from the Editor and Chief of the Division of Publications, United States Department of Agriculture, Washington, D. C., or from the department under which they are published.

- Bread and Break Making in the Home.* By Caroline L. Hunt and Hannah H. Wessling. U. S. Dept. of Agr., Bul. No. 807, April, 1917, pp. 25.
- Experiments in the Determination of the Digestibility of Millets.* By C. F. Langworthy and A. D. Holmes. U. S. Dept. of Agr., Bul. No. 525, April 7, 1917, pp. 11.
- The Small Vegetable Garden; Suggestions for Utilizing Limited Areas.* U. S. Dept. of Agr., Bul. No. 818, April, 1917, pp. 44.
- Studies on the Digestibility of Some Animal Fats.* By C. F. Langworthy and A. D. Holmes. U. S. Dept. of Agr., Bul. No. 507, March 24, 1917, pp. 20.
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NEWS FROM THE FIELD

SOUTHERN HOME ECONOMICS CONFERENCE

A conference of home economics teachers and extension workers was held at Macon, Ga. March 20-21. The purpose was twofold: (1) To promote acquaintance among the home economics workers of the South and to lay a foundation for more coöperation and greater uniformity of work; and (2) to discuss definitely a few pressing questions, one of the most important being the character and distribution of home economics courses in the schools and colleges and the present repetition and waste when pupils go from one school to another. The home economics meeting was one of the group making up the Southern Conference for Education and Industry, and is deeply indebted to the general secretary, Dr. A. P. Bourland, for his untiring interest and assistance. Representatives from eleven southern states were in attendance.

The program was arranged under five topics.

Topic 1. Home Economics in the High School

Mrs. Henrietta Calvin, specialist in home economics in the United States Bureau of Education, presided.

One of the points developed was that a textbook, even though imperfect, was preferable to dictation and notebook work. It was felt that the notebook work, except where necessary to supplement the accepted text, is a waste of student time and often results in the inaccurate copying of notes and the recording of misleading statements. Criticisms made upon some of the present texts were that they cover thinly too many subjects; that they are written with no definite type of school in mind; that they are padded with recipes and filled with vague statements; that the question of costs is ignored and many statements made as final truths which are still unsettled. All present felt, however, that regardless of these defects textbooks should be adopted and used.

Many teachers are handicapped by too short periods and too infrequent periods for home economics subjects. The conference determined to advocate double periods for laboratory and single periods for recitation; it further decided to urge that three double periods and two single periods be given each week—this or its equivalent in time to constitute a full high school unit.

Miss Anna E. Richardson of the University of Texas gave an address on Home Economics in the University and How the High School May Best Prepare for It. Miss May Hansis of the High School, Birmingham, Ala. spoke on the same topic from the side of the high school under the title, Home Economics as a High School Subject and How the College Course May be Adapted to It.

During the discussion of college entrance credit in home economics the conference went on record as desiring that the content of the high school course in home economics should be decided according to the needs of the high school girl whether or not she expects to go to college, rather than according to what might be most desirable if thought of simply as a college preparatory subject. A request was made by the Southern Association of Secondary Schools and Colleges that the home economics teachers agree upon the amount of entrance

credit they wish granted and clearly define the amount and type of work which will entitle a school to this credit. A committee was appointed to report upon a definite plan for entrance credits, to be submitted at the next meeting.

Topic 2. Home Economics in the Elementary School

A number of special reports were made from different states. Mississippi requires home economics in all consolidated schools. This work begins in the fifth grade and consists of daily lessons in which food study alternates with clothing lessons. Miss Rosser, Supervisor of Home Economics in the schools of Jefferson County, Ala., discussed the possibility of some home economics instruction in the still prevalent one-room rural school, which she described as a "necessary, temporary, tolerated evil."

Miss Katherine Pritchett, Home Demonstration Agent of Maryland, spoke on Home Industries in Rural Schools, giving a number of practical methods of introducing the work with little or no equipment.

Dr. Charles A. McMurry, Professor of Elementary Education at Peabody College, addressed the conference on The Type Study Method as Applied to Home Economics. He showed how, in the elementary school course of study, home economics subjects may become organizing units into which may be gathered a vital, rich, and full content of thought material and culture material closely related to the child's experiences and bound up with them.

Topic 3. Home Economics in the Normal School

Miss Christine N. South, State Normal College, Greensboro, N. C., presided.

Reports were followed by discussion of the relationship of the work in the normal school to that in the elementary and high schools and the colleges; also of the amount of time given in the course to other subjects, especially to education, psychology, and practice teaching. Emphasis was laid upon the need for seeing that teachers adapt their subject matter to the class to be taught, and do not simply pass on to their classes a repetition of their own work in the normal school. On the other hand Mrs. Calvin warned the conference against underestimating the ability of the girl in the upper grades and in high school, saying that one reason for the frivolousness of the high school girl is that she is not given work making sufficient appeal to her real mental ability.

Topic 4. Home Economics in the College and Technical School

Miss Harriet A. Boyer, Sophie Newcomb College, presided.

The topics especially considered in the reports and discussions were: prerequisites of courses, time requirement, related subjects and correlation with related subjects. The danger of specializing too narrowly was emphasized. There must not be so much time given to study of food and clothing that not enough is left for other equally important subjects such as the furnishing, management, and care of the home, sanitation and home nursing, the care of children, the relationship of the home maker to industry and social life. The subject matter of other courses, such as chemistry, biology, fine arts, history, sociology and economics, should be applied and made use of in the home economics classes. The home economics courses also should be correlated with each other, thus eliminating repetition and waste of time on the part of the student and giving the student a grasp of the subject as an organic whole, not as a group of disjointed parts.

On Wednesday, March 21, President Catharine J. MacKay, addressed the assembled conferences on A Vital Factor in Education. A happy chance incident of her address was the fact that from the same platform Representative Hughes had just finished addressing the Conference on Education on the subject of the Smith-Hughes Bill.

Topic 5. Home Demonstration and Extension Work in Home Economics

Mrs. H. H. Merry of the Georgia Federation of Women's Clubs presided.

The Successful Rural Extension Worker,—her Personality and her Training was discussed by Mrs. Jane S. McKimmon, State Agent of North Carolina, and Miss Mary Feminear, Assistant State Agent of Alabama.

The Ways in which Home Demonstration Agents, Home Economics Teachers, Women's Clubs, and School Improvement Associations May Coöperate was the subject for a lively round table discussion in which representatives of each of these groups offered helpful suggestions.

The conference resulted in a permanent organization to be known as The Southern Home Economics Association, and the following officers and committees were elected:

President, Ada M. Field, Peabody College for Teachers, Nashville, Tenn.

Secretary, Marie White, Meredith College, Raleigh, N. C.

Treasurer, Agnes E. Harris, Florida State College for Women, Tallahassee, Fla.

Chairman of Committees. Elementary School, Elizabeth G. Moore, 112 Fourth Street, Louisville, Ky. (City Public School.)

High School, Edith M. Thomas, Hood College, Frederick, Md. (Supervisor Home Economics, Frederick County).

Normal School, Christine N. South, State Normal College, Greenboro, N. C.

College, Harriet A. Boyer, Sophie Newcomb College, New Orleans, La.

Constitution, Catherine A. Mulligan, Converse College, Spartanburg, S. C.

Household Arts Teachers of Chicago.

On April 17 the Superintendent of the Chicago Schools called a meeting of the Household Arts teachers to discuss in what manner the department might render assistance in the solution of certain economic problems that confront the city.

After expressing his pleasure in meeting for the first time the entire department, and his surprise that it contained so many members, Mr. Shoop brought vividly before them the serious conditions imposed by the war, and the duty of everyone to assist in this crisis. He emphasized the value of the services that might be rendered by the Household Arts Department, if its efforts were properly organized and directed. Several members of the Board of Education were present and called attention to the opportunity afforded the High Schools to coöperate with the Red Cross work; to the use of Social Centers for lessons and demonstrations; and to the need of individual economies for the sake of the example. The extension of production and the conservation of foods were discussed by Miss Jenny Snow of the Chicago

Teacher's College with the suggestion that, since proper containers for canning and preserving would be difficult to procure and very expensive, special attention ought to be given to the various dehydrating processes. She urged the issuing for general distribution of printed matter showing the comparative nutritive value of foods in simple forms; the using to advantage all of the wool material on hand.

The use of cheaper foods, and the methods of the palatable preparation and service of such foods with special reference to the value of the neglected hominy; the avenues, through which the information and suggestions, in the hands of the department, could be made available to those portions of the population most in need of help, such as round tables for the mothers who had leisure to attend such meetings, and for the others the coöperation of the visiting housekeepers, now connected with various charitable institutions; the economic value of foods of small water content, such as several varieties of beans costing ten cents or less a pound; and the possible economies in the selection and preparation of foods

that could be introduced in the homes by the enthusiasm of the pupils, with the suggestion that this might well be encouraged by permitting them to take to their homes from the school any utensils necessary for the proper demonstration of methods of preparation—these were among the subjects discussed by Mrs. Byrud, Mrs. Hubbell, Miss Routh, and other teachers.

Three committees were suggested by Miss Dora Wells, Principal of the Lucy Flower Technical High School, and were appointed by the Superintendent, the first to consider how the production of food may be increased by instruction in the public schools; second, to urge and teach methods of conservation of food, clothing, and other articles of household and general use; and third, to consider and arrange for some organized Red Cross work, or work that should be auxiliary to Red Cross activities in the high schools, that enthusiasm aroused in the girls in the high schools should be directed into some productive effort.

The Dress Procession at the Annual Meeting of the Maryland Federation of Women's Clubs. An afternoon of the two days' meeting had been assigned to the Home Economics Section for the subject of dress, and Miss Helen Louise Johnson had been engaged to speak on the Standardized Street Dress. To precede this lecture a procession was arranged of 31 models wearing costumes to represent the main epochs in the dress of women in the last 300 years. The gowns were loaned for the occasion by those in whose families they were heirlooms. Three very beautiful brocades of the Colonial period and one embroidered muslin Empire gown had been for years on exhibition in the cases of the Smithsonian Institute. It can not be said, however, that the more recent gowns were as highly prized. It was very difficult to even find distinctive specimens of the last thirty years; they had been kept by accident or because of some grotesque or extravagant feature.

The styles seem to have suffered only slight changes during the seventeenth and eighteenth centuries; but with the passing of the Empire gown in 1820, the changes became much more frequent, being quite markedly different each decade from the decade preceding. Under the stimulus of organized business and the growing wealth of the country, changes in the style of dress have become more and more frequent, and have embraced many absurd and extravagant features, as the bustle, the wide sleeves, the trailing gown for the street, the hobble skirt, the excess of trimming (one gown of 1875 having scarcely a square inch not ornamented by bands, tucks, cording, ruffles, or flowers). Since 1900 the changes of style have been yearly and quarter yearly.

This dress procession was explained as it passed by Mr. Raymond Sovey of the Maryland Institute, who was dressed in the striking costume of the French court dandy of the time corresponding to our early Colonial. He assayed to prove that to some extent the style of clothing always expresses the time, as the extravagance of the French aristocrat with utter lack of duties or responsibilities, or the simplicity of republics showing in the so-called Empire gown.

Against this background of the past came Miss Johnson's plea that modern dress, especially for the street, should be less subject to change, standardized to a certain extent as are men's clothes, thus being more suitable for the constantly increasing part that women are taking in the work of the world, and diminishing the outlay for clothing which is now more than the household budget can stand in justice to other demands on it. She explained how these frequent and rapid changes were responsible for making the garment trade a seasonal trade of the most extreme character and what evil its rush times and slack times impose on the worker.

Miss Johnson wore the "Biennial" costume and advocated some modifications of its simple lines to meet the present need.

Home Economics Fellowship. At a meeting of the Baltimore Association for the Promotion of the University Education of Women held in connection with the Maryland Federation of Women's Clubs at Goucher College April 26, it was announced that the 1917-18 fellowship of the Association had been awarded to Miss Anna E. Richardson, Adjunct Professor of Home Economics, University of Texas. Her subject will be physiological chemistry.

This is the second time a home economics student has secured this fellowship, the holder for 1916-17 being Miss Louise McDanell who will receive her Pd.D. in physiological chemistry at Yale in June and has just been appointed Associate Professor of Home Economics at Goucher College.

At Hood College, Frederick, Md., a small group of home economics teachers met for conference and organization, April 28. The State Home Economics Association of Maryland was organized with the following officers: President, Miss Thomas of Hood College; Vice-President, Miss Reeves of Hood College; Secretary, Miss Stevenson of Baltimore; Treasurer, Miss Heyser of Hagerstown. A fee of fifty cents a year was agreed upon and plans were made for a second meeting to be held in Baltimore at the time of the meeting of the State Educational Association.

An address of welcome was given by the President of Hood College and a lecture on the subject "Present Opportunities for Service by Home Economics Women" was given by Mrs. Calvin of the Federal Bureau of Education.

Luncheon was served to the guests by the dietetics class of the home economics department of the college. A committee on county and state courses of study was appointed.

University of Illinois. Some of the seniors in the Household Science Department of the University of Illinois are making preparations to keep in touch with

the work in home economics by subscriptions to the JOURNAL OF HOME ECONOMICS. Sixty subscriptions have been taken recently.

The students of the Household Science Department, under the leadership of Omicron Nu and Household Science Club, gave an "open house" on the evening of March 30. Guides were provided to show the guests the equipment of the Woman's Building. A little play entitled, "A Good Dinner," was one form of amusement offered to the guests. The admission fee of ten cents, together with the candy sale, netted the Richards' Memorial Fund eighty-five dollars.

The Department of Household Science entertained the Legislators Friday, April 13, 1917.

The Home Economics Section of the Indiana State Teachers' Association met in a called business meeting in Indianapolis, Saturday, April 14. Forty teachers from various parts of the state attended. Mrs. Alice P. Norton, of Chicago, Secretary of the American Home Economics Association gave a résumé of the work done by the committees of that Association and an inspiring talk upon the new opportunity for greater service to the nation, which war conditions give the home economics teacher. Miss Geraldine Hadley, president of the association, appointed committees for constructive work in the state.

The committee on organization and affiliation with the national Home Economics Association (Mary E. Cammack, Chairman) will make a survey of the state; the Pen and Press Committee (Mabel Wellman, Chairman) will collect material for publication; the committee on exhibits (Frances L. Swain, Chairman), and budgets (Louise Knight, Chairman) will secure information regarding the work done in these subjects; the Legislative Committee (Miss Shank, Chairman) will watch both state and national legislation on matters relating to home economics. A committee on con-

servation of food (Elixabeth Cowan, Chairman) was appointed to coöperate with the State Department of Public Instruction in the circulation of information relating to the economical uses of food. A committee on social work (Mary Ralston, Chairman) was also appointed.

The officers for the year are:

President, Geraldine Hadley, Technical High School, Indianapolis.

Vice-President, Grace L. King, Richmond, Indiana.

Secretary-Treasurer, Elizabeth Bray, Evansville, Indiana.

Representative Councilor, Elizabeth Cowan, Crawfordsville, Indiana.

The Ellen H. Richards Club. In November last Helen Louise Johnson gave in Crawfordsville a talk on Budgets, and the girls of the high school home economics classes were so interested that there seemed need of further discussion of various problems necessarily crowded out of a laboratory course. Sixty girls responded to a call for the formation of an organization to meet once a month. Officers were elected who conduct the meetings by parliamentary rule, and regular programs are given on home, civic, and girl problems. Some latent talent in impromptu speaking has been developed.

Mrs. Richard's name was chosen for the club by unanimous decision, and perhaps this is the kind of tribute she would most appreciate.

Brief Notes The National Board of the Y. W. C. A. is offering, at its New York headquarters, July 6-August 3, a graduate course in Association cafeteria management combining both advanced theory and practice, continuing the short course for house secretaries and lunchroom directors opened in 1914.

Miss Winifred Stuart Gibbs has been asked by the Mechanics Institute, of Rochester, N. Y., in coöperation with the Chamber of Commerce, to found and direct a department of extension work in home and social

economics. The scheme of work includes dividing the city into districts and working through a neighborhood association in each district. It is hoped in this neighborhood scheme to rouse and use the community spirit, to make all possible use of every resource in the neighborhood, and to attempt to put each individual home on as sound a basis as possible. This will include careful expense keeping for all income groups, diet work, and studies of cost of living.

Miss Gibbs is hoping to develop her specialty of Home and Social Economics along very broad lines, particularly with independent families. She has lately spoken in Boston for the New England Home Economics Association, and in Providence for the Providence District Nursing Association. Miss Gibbs is President of the Home Economics Association of Greater New York.

The Home Economics Association of Washington, D. C. met February 6. Miss Zirkin gave a lecture on Furs, illustrated with genuine pelts. The talk included valuable points on appearance, cost, ways of manufacturing, and values of furs, and how to take care of them.

The members of the faculty of the State Normal School, Harrisonburg, Va., are enjoying a series of luncheons given to them in groups by the household arts seniors. As a test of their skill in applying what they have learned of domestic economy, four students each week are given \$1.75, and, with this amount plan, provide, cook, and serve a luncheon for six persons. The results show remarkable skill in persuading this small sum to cover the cost of a dainty and delicious meal of four courses, especially in these days of soaring prices.

A set of five charts showing the Relative Cost of Equal Portions of Foods, with direction for changes in prices, has been prepared by Dr. Alice Blood of Simmons College. They will be exceedingly valuable either for demonstration lectures or classroom teaching.

THE
Journal of Home Economics

For those interested in Homemaking, Institution Management,
and Educational Work in Home Economics

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THE COLLEGE COURSE IN HOME ECONOMICS

ELIZABETH C. JENKINS

New Bedford Industrial School New Bedford, Massachusetts

"To maintain normal family life, to restore it when it has been interfered with, to create conditions more and more favorable to it, is the underlying object of all our social work."¹ So writes Dr. Edward Devine, and his opinion is reinforced by statements of similar import in one discussion after another in the modern literature on social problems.

"The family is the foundation of morality, the chief educational institution, and the source of nearly all real contentment among men."²

"It is likely that the public, as it wins a deeper insight into the services of the family to society and to the race, will feel less sympathy with the wrong-doings, weaknesses, and whims that shatter it."³

"One approaches, for example, the most immediate and fundamental of social problems—the institution of the family. It is the vestibule of the social order, the unit of civilization, the original group into which by the very circumstances of human birth and infancy each individual is introduced. The evolution of the family is a curious record of this struggle of types in which every possible relation has been historically tried and sifted out so that the fittest survive. . . . And meantime what is the conception of the family which through the long ages of its evolution has gradually emerged and which is now the only guarantee of its stability and permanence? The family, many people may be almost surprised to learn, is not a device invented to procure either

¹ The Family and Social Work, Edward T. Devine, p. 32.

² Christianity and Social Order, Bauschenbusch, p. 272.

³ Changing America, E. A. Ross, p. 62.

personal happiness or mutual convenience. . . . The family is in danger when it is created for what one can get out of it, and it is safe only when it is prized for what one can give to it. The family is the chief human instrument for the socializing of the will and the spiritualizing of desire."⁴

If this is sound doctrine, we should expect to find, not merely a cordiale entente, but close knit alliance with an organized plan of campaign among sociologists, social workers, and all bodies working for the improvement of family life. And in this alliance we should expect to find the Home Economics Association the most influential member, for Mrs. Ellen H. Richards, the great pioneer in this movement, fashioned its purpose with a view to such leadership: "Home Economics stands for the ideal home life of today, unhampered by the traditions of the past; for the utilization of all the resources of modern science to improve home life; for the freedom of the home from the dominance of things and their true subordination to ideals; for the simplicity in material surroundings which will free the spirit for the more important and permanent interest of the home and of society."

With such a purpose, the pioneers in the movement faced the tremendous undertaking of organizing into subject matter for the school curriculum material which had never been used for formal instruction. They had to devise new methods of teaching, train teachers in these methods, overcome popular indifference and prejudice sufficiently to get a footing for teachers and methods in the college course. But the belief that "he"—or she—"who has the school has the future" gives great courage always. And it seemed certain that, once home economics secured its place among the recognized school subjects, finer home life must soon become evident in all classes of society.

The statistics secured by Professor Andrews show how successful the leaders of the home economics movement have been in winning a place for these new subjects in the schools. Professor Andrews reports that, in 1912-1913, 252 colleges were offering instruction in home economics. The total registration in the institutions that furnished data was as follows:

In preparation for teaching 1788 students in 56 colleges.

In preparation for professional service 264 students in 24 colleges.

In preparation for homemaking 3435 students in 61 colleges.

⁴ The Approach to the Social Question, Peabody, p. 147.

"Of the total 5547 students reported in home economics courses, 63 per cent are studying for home use; 32.2 per cent are preparing for teaching; 4.8 per cent are preparing for administrative positions. These figures come from about 35 per cent of the colleges teaching home economics in 1912-13. However the institutions reporting were the more important colleges, so that these total registration figures represent perhaps two-thirds of the college students in home economics. Probably there were at least 8000 college women following these courses in 1912-13."⁵

This number is more significant because of the influence these women exert directly and indirectly: *indirectly* because the 63 per cent of the college students in home economics who are preparing themselves for homemaking must form a group of educated women, thoroughly interested in a fine type of home life and of a social position to give their standards weight. Gabriel Tarde has shown us how powerful are the laws of imitation by which changes in standards of living spread from the upper social classes to the lower. *Directly*, because those trained to teach go out to develop courses in household arts in the lower schools. Professor Andrews reports that, while "up to and including the year 1895 only eleven states—Maine, Massachusetts, Connecticut, Rhode Island, New Jersey, Pennsylvania, Maryland, District of Columbia, Virginia, Ohio, and Wisconsin were giving this instruction, it is now offered in every state in the Union. One hundred and fifty-nine normal schools, 2440 high schools, and 3082 towns and cities give household arts instruction."⁶ And this list, he tells us, is incomplete because of the difficulty of getting data.

It is of interest therefore to ask how the widespread instruction in home economics is valued by those who are most interested to-day in the study of social problems.

At the meeting of the Home Economics Association in St. Louis in 1911, the question of introducing sociology into the curriculum aroused spirited discussion. Professor Fetter of Cornell said: "Our teaching of the social subjects, including home economics, to be vital must include observation, investigation, and practical training along with precept and principles. We must break this vicious circle, this endless chain, of youth untrained in the arts of the home becoming untrained

⁵ Education for the Home, Benjamin Andrews. Part III, p. 81. United States Bureau of Education Bulletin.

⁶ Education for the Home, Part IV, p. 42.

parents of another generation of untrained youth. A part of our task is to arrive at sounder notions of the kind of family life that is possible and desirable in our new social conditions. That, rather than the cost of foods or the cost of gingham, is the main task of home economics."

Professor Howard said: "That sociology should fill a large space in the curricula of college departments of household science might be taken for granted were it not for the facts disclosed by their published announcements. These reveal a surprising progress in the differentiation of the technical and professional studies peculiar to that science. Even in the smaller and younger institutions, the student finds in the courses dealing with food, shelter, clothing, personal hygiene, household administration, and the like, a rich feast spread before him. The progress already made on this side of science deserves the highest praise. On the other side, the side of supplementary studies needed to place these departments on a proper college basis, the showing is not so encouraging."

Dr. Elwood at this same session said: "The biological factors in the home or in the family life have certainly not been neglected by your science especially on the side of nutrition, sanitation, and the like. The real vital elements, however, in the family are the relations of individuals to one another, and these relations are mainly psychological or spiritual as we say. . . . The real object of your science can surely be nothing less than to secure good homes, homes which shall produce the highest type of manhood and womanhood. Therefore the spiritual aspects and functions of the family and the home must be taken account of by the student of household science. Household science can hardly be studied intelligently without understanding the meaning, the function, and the purpose of the family and the home life in the total life of humanity."

These criticisms and appeals seem to have had as yet little effect on the make-up of the course of study in the home economics departments. Professor Goodsell of Columbia University in *A Plea for Historical Courses on the Home*⁷ says: "Even in those professional schools and state universities where ample recognition is afforded to domestic science and art, I submit that it might be quite possible for a young woman to pass through courses of instruction in these subjects without carrying away an enlarged vision of their relation to the problem of the modern

⁷ *Jour. Home Economics*, April, 1913, p. 112.

home. Even if it be considered for purposes of argument that the student does see the application of much that she studies to the large education of homemaking, and is intelligently interested in the subject, it still remains true that such technical courses cannot supply all the knowledge which seems essential if young women to-day are fully to appreciate the meaning of parenthood and homemaking in the twentieth century."

In 1913, the American Home Economics Association published a Syllabus of Home Economics. Fifty-nine pages of the Syllabus are devoted to a detailed outline of instruction. They are proportioned as follows:

		<i>pages</i>	
Food.....	{ selection.....	7	
	{ preparation.....	7	
	{ use.....	2	
Clothing.....	{ selection.....	6	
	{ preparation.....	6	
	{ use.....	2	
Shelter.....	{ selection.....	3	
	{ preparation.....	18	
	{ use.....	2	
Household and Institution	{ Material basis.....	2	(total 55)
	{ Social contacts.....	1	
Management.....	{ Activities and functions.....	2	
	{ Aims and results.....	1	(total 4)

Here again we find the same disposition to lay little emphasis on the study of the Family as a great factor in social progress.

But the most pertinent question is this: does the course as at present organized in the college correspond to the felt needs of women who are at present solving in the best way they know how the problems of home and family life? The answers to a questionnaire returned by ninety seven of the one hundred and thirty women to whom it was sent have considerable interest in this connection.

QUESTIONNAIRE

In the light of your homemaking experience, what subjects are essential to a college course, which *aims* to prepare for homemaking?

Should the emphasis in Chemistry and Economics be on principles or applications?

Should the emphasis in Literature and Fine Arts be on history or appreciation?

N. B.—Consider the course four years in length requiring the usual high school preparation. It must justify its subjects by the part they play in preparing a woman to lead a wholesome, happy, useful life, which encourages her husband and trains her children to the same kind of living.

Please mark subjects a, b, c, or d.

a—indispensable; b—important; c—of some use; d—unnecessary.

Physics	Ethics
Bacteriology	Sociology
Biology	Cooking
Botany	Sewing
Chemistry	Dressmaking
Economics	Millinery
Education	Dyeing
English	Weaving
Fine Arts	Use of Tools
French	House planning and sanitation
German	Cost of food, shelter, and clothing
History	Dietetics
Latin	Child study
Physiology	a. Physical care
Hygiene	b. Mental development
Physical training	c. Games and stories.
Psychology	

The questionnaire is full of weaknesses, of which perhaps the main ones are three:

1. The content of the subjects is too vague. What one woman is thinking of when she marks bacteriology indispensable does not occur to the woman who marks it unnecessary.

2. No distinction is made between elementary and advanced courses in a subject.

3. Women who have no knowledge of a subject or to whom it has been badly taught cannot judge whether or not it would have been more helpful to them interpreted by a good teacher.

To guard against these weaknesses, the questionnaire was sent to women who are a picked group for intelligence and for interest in such a discussion. In the first sixty copies sent out, the content of English was made a little less vague by dividing it into literature and composition. In only two cases did it make any difference in the marking. The

fact that mathematics was omitted from the questionnaire through an oversight and that not one of the women missed it has a certain interest of its own.

While criticisms of the questionnaire are many and valid, it is nevertheless reasonable to believe that any subject marked "a—indispensable" or "b—important" by two-thirds of the women in each group to which it was sent has a right to an important place in a college Home Economics Course. It is then the responsibility of the college to see that the subject is in the hands of a competent and inspiring teacher—as original in the ability to bend his subject to the needs of his pupils as it is possible to find.

Subjects marked a or b by at least two-thirds of the women in any of the groups.

	GROUP I	GROUP II	GROUP III	GROUP IV
	21 women non-college homemakers	42 women graduates liberal arts courses	18 women home eco- nomics graduates	16 women home owning unmarried
Bacteriology.....			15	
Biology.....		30	12	14
Chemistry.....			15	11
Economics.....	16			11
Education.....	15			
English.....	21	40	17	16
Fine arts.....	17	32	13	14
History.....	16	37	13	14
Physiology.....	19	36	17	12
Hygiene.....	21	40	17	16
Physical training.....	20	36	15	15
Psychology.....		29		12
Ethics.....				13
Sociology.....				15
Cooking.....	21	34	18	14
Sewing.....	21	32	18	13
Dressmaking.....	18		15	
Millinery.....	14			
House planning and sanitation.....	20	29	17	12
House decorating.....	17		18	11
House management.....	21	33	18	14
Physical care of child.....	21	33	18	15
Mental development.....	21	31	17	14
Games and stories.....	20	29	16	12
Dietetics.....	21	32	16	12

The questionnaire was sent to four groups of women.

Group I. Middle-aged women, not college graduates, intensely interested in their homes, who have brought up families of children who are now making a successful start in the world for themselves. Nine of these women are members, several of them charter members, of a Mothers' Club that for fifteen years has been discussing questions akin to this.

Group II. Graduates of liberal arts colleges, married and having from one to four children.

Group III. Married graduates of college home economics courses.

Group IV. Unmarried women, nine of the sixteen college graduates, owning and making very attractive homes of their own. This group is interesting in contrast to an earlier type of "strong-minded" women who were supposed to crave freedom from the petty cares of the home. These women have deliberately assumed these petty cares and by no means petty expenses of homes of their own.

Shall emphasis in chemistry and economics be on *principles* or *applications*? 80 answers (applications—50, principles—19, equal emphasis—11).

Shall emphasis in literature and fine arts be on *history* or *appreciation*? 79 answers, (appreciation—57, equal emphasis—18, history—4).

ADDED SUBJECTS		GROUPS SUGGESTING			
Home nursing.....	17	I	II	III	
Field study of birds, flowers, rocks, stars.....	20	I	II	III	IV
Music.....	15		II	III	IV
Bible.....	14	I	II		IV
Business administration and accounts.....	22	I	II		IV
Vegetable and flower gardening.....	11	I	II	III	IV
Laundry work.....	4	I		III	
Current events.....	7		II		IV
Textiles.....	1			III	
Papering and painting.....	11	I			IV
Penmanship.....	1				IV

The following points in the marking are of interest:

1. Weaving, dyeing, Latin, German, French, use of tools, were *not* considered important by 60 per cent of *any group*.

2. Millinery, botany, bacteriology, education, ethics, economics, and sociology were considered important by 60 per cent of *one group only*.

3. Cooking, sewing, physical care of children, mental development of children, games and stories for children, physiology, hygiene and

physical training, dietetics, house planning and sanitation, house management, English, history, and fine arts, were considered important by 67 per cent or more of *all the groups*.

Certain extracts from letters received with the questionnaire express better than any survey of the marking the needs these women feel in their homemaking. All comments received from the graduates of the home economics course are given, for these graduates are critics who should be just.

"If I were planning home economics courses, I would omit much of textiles, etc., and get right at the child business. This conclusion is reached not only through my own experience but is based on observations of all my acquaintances. Women do not know how to care for themselves or their babies after the babies arrive—and they do not know how to train children from a physical or ethical standpoint. In this age of quickly changing fashions, a knowledge of sewing is a useful but dangerous thing. It usurps the place of higher, freer things. Sewing is my besetting sin. If I never did any, my family would be happier."

"I believe the instruction in chemistry should be along the line of application. There is a failure on the part of teachers in the home economics courses to make the students think through situations in terms of present day home life."

"A sick baby has almost prevented my answering but I am interested and stealing time—home nursing should certainly be added to these subjects."

"I think there should be more actual practice in cooking and sewing. They should be taught through the grades, high school and college. I don't underestimate the value of teaching scientific facts and the theory of cooking, but I believe the graduate from the domestic science course has not had enough practice to be as efficient as she should be in cooking and serving entire meals and planning balanced rations—and I believe that a girl should be able to make all her clothes except tailored suits.

"There is special need of adding child study to the course."

"I think the emphasis in chemistry should by all means be upon applications; and as much time be spent upon history as possible."

"I should add home nursing and gardening—both vegetable and flower—but with especial attention to planning the lawn and the flower garden."

"I do not see the advantage of spending hours testing different kinds of sugar, baking powder, soap, cleansing fluids. Few homes are turned into testing laboratories. I want to be told which is best and why."

"After experience in teaching home economics and later in homemaking, I believe that after a girl has had good high school training she should give her attention to learning to run a home. At present the greatest lack is in

the subjects relating to the care of children. I mean definite information about clothing and feeding, the necessities and how to provide them."

"I should have one course to include all small useful arts and practical home suggestions, such as dyeing (old clothes), use of tools, cleaning clothes, fine laundry, papering and painting, and plumbing."

Extracts from letters from graduates of liberal colleges follow.

"I should not wish to omit *anything* I took in college. My only regret is that I could not also have studied chemistry as applied to foods. I have always needed the humanities and I value particularly what I know of all language, history, and literature. At present I am giving myself a course in stories for children—games later. I can do it better for my classics."—Radcliffe—one child.

"I often think I might have had much better preparation for homemaking and that I would send J. to a different preparation—but yet I would not give up the spirit that one gets in a college for liberal arts, meaning more idealistic things than are the scientific. One-half or more than that of one's effort in college ought, I believe, to be given to the things of the mind and spirit. I believe that a woman who has to tend children and do household work needs to be very strong physically. So physical training I should insist on. Some training as a nurse seems terribly important to me, and real, extended experience in cooking and cleaning would have been of great help to me."—Radcliffe—three children.

"I have not marked anything "d" because a housewife and homemaker can make use of a great many kinds of knowledge. Some not mentioned here would be useful, landscape gardening, floriculture, home nursing. One homemaker might make a great deal out of history, Latin, and music in her home while another would make much of weaving. Individual tastes should be recognised and plenty of room given to electives after a few essentials are taken care of. The child study is important, but I cannot help thinking that a course that opens the way to further study is better than a more thorough one. Child study will become one of the homemaker's graduate lines of work."—Michigan—three children.

"The girl who has learned Latin and history will learn in a little while to wash blankets and pickle beef. And she'll have something to give her children that she might not have had, had she devoted herself exclusively to the contemplation of the beef."—Radcliffe—one child.

To get a comparison of the needs expressed by these women with the work given in the college home economics course, a summary has been

made of home economics courses in four of our leading colleges.⁸ The most noticeable differences between the subjects considered important by the women in their homes and those required in the college curricula are these:

1. Literature, history, and fine arts are considered "indispensable" or "important" by women in their homes.

In *one* of the four college courses *no literature* is required.

In *two* of the four college courses *no history* is required.

In all *four* courses *design* is the only requirement in *fine arts*.

2. Science (theory and principles) is not considered "indispensable" or "important" by women in their homes.

In the four college courses *science* (theory and principles) makes up from 17 to 47 per cent of the required work.

3. Care of children is asked for by 80 per cent of the four groups.

Care of children is asked for by *all* women in groups I and III.

In the four college courses it is *not* required except as it enters into a half year course in humanics in *one* of them.

The essential difference might be stated in this way:

Women in their homes feel the need of subjects dealing with health (physiology group), with human relationships and human effort (care of children, and English, history, fine arts groups), with skill in hand work (cooking and sewing), with the applications of science to housework (house planning, sanitation, management and dietetics). The college course concerns itself first of all with the theory and principles of the sciences underlying housekeeping, next with their applications, less with the actual handwork, adequately with health subjects, not adequately with human relationships and human effort, and not at all with the care of children.

It may be argued that every college leaves a considerable number of hours—a rough average of one-third of its credits—for elective work.

⁸ This summary has been omitted for lack of space.

The summaries in this article were made from the college bulletins of 1913-1914. In the bulletins of 1916-1917 some changes appear in the number of points allowed for different subjects, but the only changes affecting the present discussion are these:

In one college a year of Continental European or United States History has been added to the required subjects.

In another, a year in the History and Appreciation of Fine Arts has been required of girls preparing to teach domestic art.

In another, psychology has been required of girls taking the course of household and institutional management.

But the elective work very often leads parallel to, not away from, the main line of required work. I had an opportunity to see the choice of electives of a class of twenty girls graduating a few years ago from one of these courses. Out of the twenty girls, eight elected nothing in English, history, or fine arts, and six elected *one* course in *one* of those subjects.

CONCLUSION

The problem of the curriculum that trains for homemaking is to find subjects and methods of teaching that will make human relationships first healthful, and then radiant. It must contain much of the spiritual and humane. The underlying subjects must deal with physical health. Then should come the training of the hands so that the woman in charge of the home may do the necessary work with an artistry that brings its own pleasure. More time should be given to the applications of science than to principles or theories, and much attention should be paid to scientific management that compares time, labor, and money costs in household methods. Already by fastening its attention on daily housework and emphasizing labor saving devices and short cut methods through drudgery, the course has done much to perfect and to dignify the necessary manual processes in housekeeping. This work should go on with increasing impetus.

The experiment station could be as valuable in the advancement of scientific housekeeping as it has proved to be in scientific agriculture and should be a part of the college of home economics. Scattered here and there through the country are some experimental households. The college departments of home economics have their practice cottages. But the arrangement of kitchen, pantries, and store rooms in relation to the rest of the house and to the time consumed in the daily care of the family needs time and motion studies in the best methods devised by scientific management. Every separate piece of work that is part of the daily routine of housework needs the same attention. When we know the kitchen plan that allows the preparation and clearing away of meals with the least time and energy, when we know the fewest possible movements that will make a perfect bed, learning these things will have the same relation to learning to make a home that five finger exercises have to the study of the pianoforte.

Planning the family budget must lay its roots in economics, sociology, and ethics quite as much as in food values, sanitation, and textiles. Preparation for the leisure of the family and for activity in interests outside the home must recognize that both the leisure and the activity

are more satisfactory because of the appreciative study of history, music, art, and literature.

Securing helpful service in the household demands ability to demonstrate the best methods of housework, enthusiasm for these methods, understanding of the fundamental difficulties in this problem of domestic service, and human sympathy enough to comprehend the solution so well summarized by Miss Roelofs in her first report of the Commission on Household Employment at the National Convention of Y. W. C. A. in 1915. She sums up the answers to the question "Can you suggest any way in which more fine girls can be persuaded to enter domestic service?" in these words "Regulate the hours and treat them as fine girls."

There is no danger of over emphasis on efficient methods in housework by our home economics courses. The danger is that we rest our minds there instead of driving them on to relate efficient methods to the ultimate values of homemaking. The natural result is a course planned as if homemaking were a trade or a profession, when it is in essence a fine art. In the state-aided homemaking schools of Massachusetts, the application blank for teachers interrogates them as to their past "trade experience." To have managed a tea room or to have been "superintendent, supervisor, or foreman" in a dressmaking establishment is to give "presumption of fitness." The college departments of home economics, on the other hand, believe that homemaking is a profession and their belief has had the result of dignifying the studies that lead to a wise selection and preparation of food and clothing.

But is there not a distinction between the trades, the professions, and the fine arts, which will serve as a basis for the contention that really significant instruction will be given only when homemaking is looked on as a fine art? In the trades we concern ourselves with what can be successfully accomplished by skill of hand. In the professions, most delicate skill of hand may be necessary as in the case of the surgeon, but success depends on the power of the mind to make severe and sustained effort. In the fine arts, skill of hand is necessary, power of intellect no less so, but success comes only when both are driven to their work by the emotions.

We shall give only the second best so long as we plan the home economics course as if manual dexterity were the chief concern; or as if the fundamental basis of the home were a capacity for clear, analytic thinking best trained by knowledge of the sciences and drill in laboratory methods. We shall give the best only when we recognize that here, as

in every art, the need is "to bring reason and proportion into the life of the emotions." Skill of hand may but multiply our cushions and doilies and provide a needless profusion of food. Power of intellect will go further and may in time balance our rations so that indigestion will be unknown. The Apsley Cookery Book with its recipes for uric-acid-free diet clears Mrs. Webster and Mrs. Llewellyn from Nietzsche's charge: "Woman does not know what food *means*, and she insists on being cook! If woman had been a thinking creature, she should certainly, as cook for thousands of years, have discovered the most important physiological facts and should likewise have got possession of the healing art. Through bad female cooks the progress of mankind has been longest retarded and most interfered with. Even to-day things are little better."

But good digestion waiting on appetite and health on both will not always keep homes from shipwreck, nor can they establish children in those yet undisputed essentials of culture, "courage to be what we are, the love of what is simple and beautiful, independence, and cheerful relation." For this consummation the aim of homemaking must be the aim of the arts—to give happiness of a noble sort. What Tennyson and Ruskin wrote of their mother's training and the tribute Emerson paid to the aunt who made her home with them in his boyhood show that these great ethical idealists felt that women's hands had made them what they were.⁹ The mother's conception of the kind of character needed in the world is her artist's vision; and just as the artist's power is a complex of manual skill, scientific knowledge, love of beauty, and the ability to see beauty in all the relations of human life, so the genius of the homemaker must be wrought of the same stuff.

THE DEVELOPMENT OF HOME ECONOMICS AT THE UNIVERSITY OF WASHINGTON

EFFIE I. RAITT

Head of Department of Home Economics

Five years ago the College of Liberal Arts of the University of Washington was divided to form a College of Liberal Arts and a College of Sci-

⁹ Isabel, Alfred Tennyson.

Fors Clavigera, John Ruskin, Letter 42.

Ralph Waldo Emerson, Lectures and Biographical Sketches, Mary Moody Emerson.

Life of Ralph Waldo Emerson, James Cabot, Vol. 1, p. 30.

ence. Both colleges claimed home economics—Liberal Arts because it is essentially a social science, and the College of Science because of its close relation to the physical and biological sciences. It rested with the department to decide. What seemed at first a difficult matter became an impossible one when the effort was made to separate from either. The result was that a major in home economics was offered in the College of Liberal Arts on exactly the same basis as any other subject in the College and leading to the bachelor of arts degree. Two courses were offered in the College of Science, one a major and the other a prescribed course for teaching.

In spite of unfavorable housing conditions the Department had a steady growth. Two years ago the demand for a University Commons became so great that in 1914-15 an old building was brought into use and a Commons was established as an activity of the Home Economics Department. It was soon evident that a real need was being met in furnishing clean nutritious food at a reasonable cost. It served its purpose for the Home Economics Department as well, in affording a valuable laboratory in large quantity cooking and in institutional management. Students here gained something of an appreciation of the requirements and the commercial value of such work in the business world.

The next year the dormitories, of which there are two, came under the control of the Department. The manager of the Commons became director of the dormitories while one of the instructors in home economics was made social head of the dormitory for women. It was this year also that a very attractive five-room cottage on the campus became available and was secured for a home economics practice cottage. It was, however, unfurnished and the University could not provide any funds for the purpose. While it seemed somewhat daring to attempt to furnish it, with the only resources \$50 dollars in the treasury of the Home Economics Club, the matter was put to a vote of the students and unanimously and enthusiastically the decision was made to take the cottage and to make, to beg, and to borrow what was needed to make it usable. Students of the home decoration class energetically set to work and made cheese cloth curtains, dyed unbleached muslin for hangings, scraped and refinished old furniture, covered with cretonne the chairs that would not fit the color scheme, painted beds, and made comforters. Interested friends were generous with gifts and loans, and by the second semester the cottage was ready for its family of three students and their house guest, the instructor. The students feel real ownership; they make their own program, division of work, decide upon

the amount to be expended and the hospitality to be offered. At the end of the stay of two weeks in the cottage, each group hands in to the office a detailed report including accounts, menus, with costs, method of housekeeping, and time involved. It has been possible to rent the cottage during the summer and Christmas holidays to pay for the upkeep. The most recent addition made by our good friends is a piano, the one thing lacking heretofore to make the "home" perfect.

The new \$150,000 Home Economics Building was completed in September, 1915. It is the first building to be erected in the proposed liberal arts quadrangle; the second building to be known as Commerce Hall is now in course of construction. Both are 200 by 70 feet in dimensions and three stories high. The architecture is most attractive. It is Tudor Gothic in style and throughout remains true to type even to the grotesques under the eaves. These form an interesting feature. In the Home Economics Building they represent activities related to the home. One is a woman washing, another a woman arranging flowers, a woman testing food, a woman using a chemical retort, a woman sewing, and over the main entrance a mother and child. The building is of brick and terra cotta. The bricks are of very rough texture with varying tones of tans and reddish brown. The terra cotta is a warm buff. The window trim and the slate of the roof is a lovely soft green that serves to bring out the rich tones of the rest of the building. The ground floor is occupied by the Commons, the banquet room, and locker rooms large enough to accommodate seven hundred lockers. On the second floor are the general offices, a room for the use of the faculty women, a social room for women students, private dining room and practice kitchen, three food laboratories, two of which are equipped at present, a dietetics laboratory, and recitation rooms. An office is connected with every laboratory.

The food laboratories are equipped for eighteen, and desks are of two different heights so that both short and tall students can work to good advantage. One feature of these laboratories is the desks in which a large drawer 11 inches deep takes the place of the usual drawer and cupboard, and does away with all stooping. This is made possible by the use of the sides of the drawer for holding utensils. Inside in the front is a rack for knives, forks, spatula, spoons, and eggbeater; on one side are hooks for hanging small utensils; on the other side is a cleat for holding pie pans and covers. This leaves the bottom of the drawer free for sauce pans, bowls, and double boiler. Below is a shelf with a drop door for dishpans, soap, and brushes. Another feature of the laboratory is a

towel dryer, metal lined, and furnished with two frames weighted to move up and down like a double hung window. These frames are furnished with steel rods on which the towels are hung. They are then pushed up out of sight and near the steam pipes where towels dry quickly.

On the third floor are the clothing, textile, design, and laundry laboratories, and the library and recitation rooms. The clothing laboratories have drawer lockers which fit in cases in the walls. The clothing laboratories are provided with tables for these drawers in which the students place them during class hours. At the end of the period they are slipped into the case in the wall and locked. The textile laboratory has a set of chemistry tables for twenty-four students as well as provision for making physical tests and for dyeing. The laundry has laundry trays, again at varying heights, and a set of Chicago dryers.

This year an entire reorganization of the courses given has been made necessary by the large development of the work, the growth of the Department, and the demand for women trained for specific work other than teaching. There are now five definite curricula which may be followed by the home economics student.

Group I. General Curriculum, designed for students who desire a liberal college training with emphasis upon the things pertaining to the home and home life. Those who are interested in social betterment and who wish to enter definite welfare work may combine home economics, economics and sociology in this curriculum. Opportunity is here afforded to select work that will prepare for interior decorating by choosing courses in textiles, home decoration, and fine arts.

Group II. For Dietitians in Hospitals and Sanitaria. To prepare for laboratory or research work and for those students who wish to specialize for the purpose of teaching this phase of the work in institutions of higher education.

Group III. Teachers' Curriculum. This group combines some liberal arts subjects with all phases of home economics and its supporting courses in other departments. It is especially arranged to meet, in the most efficient manner, the particular needs of home economics teachers in Washington high schools. Practice teaching in the Seattle Schools extending through one semester is required.

Group IV. Institutional Management. This work has been developed into a full four year course with work in the fundamental sciences and many of the business courses given in the School of Commerce. The special work in the Home Economics Department consists of large

quantity cookery, buying, and dietaries, practice work in the Commons, and practice work in some down-town institution which may be a department store, tea room, a cafeteria, a school lunch room or a hospital.

Group V. Textile and Non-Textile Merchandise. This course has grown out of many conferences with merchants and after a sufficient survey of the fields to show the demand for the trained woman in mercantile establishments. The Northwest offers unusual opportunities for the development of this line of work because of its willingness to try out new projects. The course will include textiles; a study of non-textile merchandise such as rubber, leather, paper, glass; clothing; salesmanship; and practice work for two semesters in department stores. The School of Commerce will contribute to this course in such courses as accounting, commercial geography, economic history, and business organization.

Extension work first offered three years ago has carried the work to the women in their own homes through short courses, single lectures, and conferences. This phase of the work has made remarkable progress and has met with the heartiest response. The culminating point of the year is the Housekeepers' Conference of a week's duration which is given on the campus and is attended by increasing numbers.

The development of the home economics work at the University of Washington has to a large extent been made possible by the generous treatment at the hands of the other departments and of the administration. The Department of Chemistry through the work in physiological, food, and textile chemistry; the Department of Physics through the work of physics in the home; the Department of Zoölogy through physiology and botany in the microscopy of foods and of fibers, offer abundant and hearty support to the work. The same response comes from Fine Arts, Economics, and Sociology. These Departments not only offer the courses requested but modify them to suit the needs of home economics students.

While the scientific and artistic basis is felt to be of the greatest importance, the danger of becoming merely academic has been guarded against by following laboratory work with practical experience in every field. The homemakers have their practice in the cottage, students of food preparation in the Commons. The final course in clothing requires a student to work for a customer who pays for the work and so must be assured value for money expended. The business courses in

institutional management and textile and non-textile merchandise will carry their work into commercial and philanthropic institutions.

The inspiration gained from the meeting of the National Convention at the University of Washington in 1915 has been of lasting benefit.

HOME ECONOMICS AND THE COMMUNITY CENTER

JOHN COLLIER

Director, Training School for Community Workers, New York, and President, National Conference of Community Centers

The writer is densely ignorant about home economics, although he is in a vague way sure that the subject is more important than any other, a statement which is literally intended, as will be justified below.

The writer believes too that community centers need home economics, and vice versa.

There are thousands of community centers and no complete ones. Any activity that exists, not for its specialized aims only, but for some wider communal aim as well, and is freely accessible to the plain people, is entitled to call itself a community center. The development of community centers is focalizing in school buildings, libraries, and park houses; the supremely important community center establishment will be in the public school. The public school community center may begin as night schools or recreation centers or forums, working outward toward generalized human interests and toward neighborhood relationships, or it may begin with a day school; working out from there toward community relationships. Of the former type the Harrison Technical High School in Chicago might be quoted as an example, of the latter type the Locust Point School of Baltimore is almost a model.

The school community centers in New York City alone, not counting the day schools of the Gary type, are more than one hundred in number, and more than half of these have been democratized to the point that they meet their own local administrative costs and govern themselves through local instrumentalities of one kind or another.

Where community centers begin—whether with the point of interest of motion pictures and dances, or of forums and study clubs, or undernourished children, or astronomy classes in the evening center—has

only a local circumstantial importance. All roads may lead to Rome; all interests may lead to the community.

Where the community center ends can be stated through the experience of hundreds of cases. It does not end with mere amusement or mere talk nor yet with the mere study of formal questions or the mere ministrations to concrete human needs. The community center which stops at any of these points either dies out or falls back on the paternalism of the state or of private charity for its sustenance or leadership.

This statement is of course very general and admits of scores of exceptions, but is a distillation of impressions received from observing hundreds of cases.

Where then does the community center end? Very simply—the successful community center results in a new kind of relationship between the plain people and the serious constructive concerns of life. It results in a new kind of relationship between the people and the police, or between the people and the health nurse, or between the people and the system by which goods are marketed, or between the people and the purveyor of knowledge, whether teacher or preacher. The real community center is a taking over by the people of some measure of their own destiny.

The people vaguely know that destinies are being made today. The destinies of homes are being made—some new duties are being forced on the home and many old duties are being taken away from it. The destinies of communities and nations are being made. We are reconsidering everything from the method of taxation to the last detailed policy which governs the use of tax money. But “We,” at present, hardly represent the people. The people simply know that great and upsetting things are afoot, and whether it be in the intimate domestic circle or in the arena of nations, the people are pawns and onlookers. It is not designing leaders, wise or unwise, who are making the destinies, but the unconscious evolutions of social mechanisms.

The community center is an attempt to enable the people to take some conscious part in this making of destinies, and it is succeeding because the people want to take part.

Now, among the environments to which life has to adjust itself, among the environments which, in requiring adjustment, create life, the intimate local environment must continue to be the most efficacious. It comes first, it is the dominant environment through those years when personality is being made and the limits of hope and fear are being set,

when the basic affections are taking direction and the human soul is for good or ill being unchangeably determined.

Home economics has everything to do at least with this intimate local environment, however great its indirect bearings on the larger world questions may be. Of the thousand experiences that rain in on a child and on a family group, are not most of them capable of being illuminated, of being given psychic value, through the ministrations of home economics?

It does not follow that those who receive a teaching of home economics in school are able to make their experience at home a living and creative one. Unfortunately, most school experiences are not translatable by the child into every-day experience; his going into school means a passing into a land of dreams. If he tries to carry his dreams or his personality as affected by these dreams back into his home, he becomes simply an unadjusted child. Most children have too much sense of reality to make any such effort. This is the pathetic waste of school teaching, a waste which becomes more complete, not as we pass toward the abstract end, but as we pass toward the concrete end of the school curriculum as now administered in the typical school of the scholastic type.

What has all this to do with the community center question? A community center as it becomes mature is seen to be a means for bringing the people in family groups and small intimate groups and in every-day relations into touch with science, politics, government, social experience, human achievement. They are brought into contact, not only or primarily through exhibitions and lectures, but through new kinds of activities—activities which reproduce the brother-sister and parent-child relation in that larger environment which is the only possible other place, outside the dwindling home, where childhood with its elders can get into contact with the realities of the world.

The community center is groping for the leadership which will show it how to point the activities of its members in directions at once practicable and psychically satisfying. The specialist in home economics is one of the three or four kinds of specialists who can meet this urgent need.

On the other side, home economics, traveling down the corridor of scholastic isolation, has reached the end of the passage, and many teachers of home economics know it. The community center proposes to knock out the end of the passage and to give the home economics worker an opportunity to function in the real—the socially and psychically real—world.

HELPING A COMMUNITY TO CONSERVE

FLORENCE E. BROOKINS

In Charge Rural Home Economics Department, Iowa State Teachers College

Every home economics teacher is asking herself today, "How can I best aid in my community in the national movement toward food conservation?" It may be suggestive to those who are seeking a reply to this question to know how the Rural Home Economics Department of the Iowa State Teachers College is answering it.

Early in April a county-wide campaign was planned in the interest of the canning club movement for boys and girls in Blackhawk County, Iowa, in which this college is located. Demonstrations in the cold pack method of canning were suggested for every school in the county. The one-room and consolidated schools in one-third of this county are affiliated with the Teachers College for mutual help and the training of rural teachers. Thus 33 one-room and 2 consolidated schools in this county, as well as a large consolidated school in an adjoining one, looked to the College for help in this movement.

The College as a whole responded generously to the demand. The three instructors in the rural home economics department were released for one week from their classes, their places being filled by the other teachers of home economics or by senior students. Eight girls from the senior class in domestic science were excused to assist these instructors, and the member of the United States Department of Agriculture detailed to assist in the campaign. A personal letter from the President of the College was sent to each resident in the territory affiliated with the school, inviting her attendance at the demonstration in her district. The cars of the members of the rural department and of several farmers interested in the movement were freely loaned for the whole week. Finally, the kitchen equipment of the College was lent to these demonstrators, and the school laboratories were thrown open to all who were to work in the county, for the initial conference of the campaign.

During the week of demonstration the weather was typical of April so that the roads became heavy, but, though some daily trips of as great a distance as ninety-seven miles were necessary, the demonstrators were able to fulfill their entire schedule. As a result at the end of the week, thirty-nine demonstrations in the canning of a fruit, a vegetable, and a green, by the cold pack method had been given; an aggregate number of 1720 persons had been in attendance; and twenty-six canning

clubs, principally of the "mother-daughter" type and comprising a total membership of 482 persons, had been formed, each with its local leader.

On the Saturday following this campaign these club leaders and the demonstrators, together with all the other demonstrators and leaders from the rest of the county, met once more at the College laboratory where the newly appointed club leaders practiced canning so as to be able to train demonstration teams in their clubs. From their number committees were also appointed that arranged uniform club programs for the season, prescribed local and county exhibits, and designated awards of merit to be given at the closing program at the College next December.

This is only the beginning of the work. While this article is being written a time schedule of the monthly meetings of these organizations is being made so that no two will occur simultaneously. This will enable one of the instructors in rural home economics to be present throughout the summer and fall at each meeting of every club, to assist members, to maintain interest and to carry enthusiasm from one club to another.

This is a brief summary of what one domestic science department is doing to aid in food conservation. The task which has been undertaken is a heavy one, but the enthusiasm which the community has shown is very great. It has responded before to calls for united action in less serious crises, and no anxiety is felt that it will respond less successfully in the present one.

Though the home economics teachers in our high schools and small colleges could, of course, not undertake so comprehensive an organization, they could undoubtedly each form and guide one club of five or more members. If every home economics instructor should organize and direct such a club in the coming season the work of all these clubs would have a noticeable effect on food conservation.

FOOD REQUIREMENTS OF CHILDREN

LUCY H. GILLET

New York Association for Improving the Condition of the Poor

The observation of food consumption during certain periods of growth has raised the question as to whether the allowances for the food requirement of children as expressed in terms of man as a unit are adequate. The New York Association for Improving the Condition of the Poor realized the importance of this question in their relief work and arranged for a survey and compilation of such evidence as would throw any light on the subject.¹

All of the available literature pertaining to the subject has been reviewed and from this material the results of 563 observations and experiments were selected and compiled as the best evidence on record upon which to base judgment. Each of the experiments selected was performed on healthy and moderately well nourished children, who, so far as could be judged, were growing normally at the time of observation.

Where necessary the experiments were recalculated to a common basis for purposes of comparison, they were then tabulated, and summarized under three different headings according to the age of the child and the type of data as follows:

1. Two hundred and twenty-three dietary observation studies which are a measure of the amount of food which a healthy child will eat when allowed a freely chosen diet, and which will at the same time maintain a normal weight and provide for normal growth.

2. One hundred and thirty-one metabolism or balance experiments which are more significant of the utilization of food because of the record of nitrogen balance. In judging the adequacy of food for growth of children, it is essential to know that the amount of nitrogen stored is in proportion to the gain in weight, because of the possibility that the increase in weight may be due to a retention of water or an abnormal storage of fat.

3. Two hundred and nine respiration experiments by which it is possible to obtain the most accurate measure of the energy expenditure of the body at the exact time of the observation. Of the respiration experiments only such as were a measure of basal requirements have been included. To make this basal figure comparable with dietary and metab-

olism experiments the basal "rate" was doubled to allow for growth and activity. Experiments on young adults who had completed their growth, and on very young infants who were active at the time of observation, seemed to justify this assumption.

The requirements of children as represented by the three types of data agree fairly well for each age, although there are wide variations. It is not possible to give all of the results here, but an average of the three types of data when tabulated and charted by sex and age seemed consistent enough for drawing conclusions. It is deplorable that there is so little data concerning the amount of food needed by growing children of certain ages, especially among the girls. For the second year there are only two somewhat incomplete experiments for girls and none for boys; and after the fourteenth year there is practically nothing that can be called at all conclusive concerning the food requirements of girls.

The difference between requirements for boys and girls was so marked from the beginning of the third year that it seemed much more reasonable to make a distinction between the sexes from this time on. From a study of the data the following food allowances for each year of the child's life have been deduced and are shown in the following table:

Food allowances for children²

AGE	BOYS	GIRLS
<i>years</i>	<i>calories per day</i>	<i>calories per day</i>
Under 2	900-1200	900-1200
2-3	1000-1300	980-1280
3-4	1100-1400	1060-1360
4-5	1200-1500	1140-1440
5-6	1300-1600	1220-1520
6-7	1400-1700	1300-1600
7-8	1500-1800	1380-1680
8-9	1600-1900	1460-1760
9-10	1700-2000	1550-1850
10-11	1900-2200	1650-1950
11-12	2100-2400	1750-2050
12-13	2300-2700	1850-2150
13-14	2500-2900	1950-2250
14-15	2600-3100	2050-2350
15-16	2700-3300	2150-2450
16-17	2700-3400	2250-2550

² Prof. H. C. Sherman of Columbia University coöperated in the selection and interpretation of the data, and in formulating the suggested food allowances.

Since the amount of food required increases not only with age but also with size and activity, it seems much fairer to the individual child to state a range of from 300 to 600 calories for each age to allow for individual variations.

According to these present allowances each estimate is based on the amount of food actually eaten by boys and girls of that particular age, and, since the three types of experiments included in the compilation showed fairly consistent results, it is felt that the conclusions furnished a more adequate basis for food allowances for children than has been available hitherto. As Prof. H. C. Sherman has pointed out in *Chemistry of Food and Nutrition*, it is hardly just to the child to base his requirement on that of the father, since the food requirement of the man varies so greatly according to his occupation.

GOUCHER COLLEGE PREPAREDNESS PLEDGE¹

To respond to my country's need I hereby pledge to prepare myself physically, mentally, and so far as possible, specifically, for usefulness.

I. PHYSICAL PREPAREDNESS

In order to develop my physical capacities to their fullest extent I will sincerely pay proper attention to exercise, diet, sleep, dress, and personal habits.

I will take at least one hour of regular exercise each day whether in the gymnasium, in recreation, or at manual labor.

I will endeavor to form correct habits as to diet, abstain from eating needlessly between meals, ascertain under college medical advice what my physical condition should be and train accordingly.

I will sleep approximately eight hours every night, retiring as early after ten o'clock as is compatible with reasonable duties or engagements, sleeping with the windows of my room wide open, on a sleeping porch, or in the open air.

I will wear simple clothing, paying due regard to the laws of hygiene, to habits of neatness, and to economy and serviceableness.

¹ This pledge has also been adopted at Mt. Holyoke and, slightly modified, at Wellesley. It is under consideration at Vassar.

I will put into practice what I know to be correct as to personal habits, keeping my room and all places over which I have control clean and in orderly arrangement.

In all of the foregoing I recognize the expediency as well as the practicability of a regime that emphasizes regularity, persistence, and willingness to profit from the wisdom and experience of others.

II. MENTAL PREPAREDNESS

In order that I may be informed as to the causes of the war, its progress, the changes that have come in the reasons why the nations are at war, particularly why the United States is forced to engage therein, I will attend the eight or ten lectures to be given by the History Department of Goucher College, and will read something every day either in newspapers, periodicals, or books, recognized as supporting the policy of our government.

III. SPECIFIC PREPAREDNESS

In addition to preparing myself physically and mentally, as above set forth, I will conscientiously take account of my own fitness and inclinations and give myself over to specific training offered by some one of the departments of Goucher College. I will give this time outside of my regular class room and laboratory duties. I will be loyal and faithful in this regard and will do all in my power to stimulate the loyalty and faithfulness of my fellow students. I will undertake this specific preparedness willingly and enthusiastically, thankful for the opportunity it gives me to respond to my country's call.

THE EMERGENCY COMMITTEE OF THE A. H. E. A. reports the following activities to date:

1. One person in each state has been asked to act as state chairman, so that we would have a local representative. Each chairman exercises her own discretion as to forming a state section or local sections. In states where the emergency work is well organized, no A. H. E. A. section is necessary. Wherever possible the state leader is our chairman. Twenty-eight have formally accepted.

2. The chairman was called to Washington by the Women's Committee of the Council of National Defense and asked (as representing the Emergency Committee) to serve them in an advisory capacity on home economics. They asked for a list of women, one from each state, who would make good "food commissioners" under Mr. Hoover. The state chairmen were asked to make recommendation. All have not been heard from, but the list was made almost complete in a small informal conference of some members of the Emergency Committee held in Washington June 2, as it was deemed advisable to give the tentative list to the Women's Committee at once.

3. The Emergency Committee plans no future activity on its own initiative, but will continue to put inquirers into touch with the local chairmen. It is ready, with a representative in each of 28 states (and others accepting daily) to act in an advisory capacity if called upon, but it seems likely that its work will lessen rather than increase, as the emergency work everywhere becomes better organized.

ISABEL ELY LORD, *Chairman*.

June 7, 1917.

The Food Administration bill was passed by the House June 23, by a vote of 365 to 5 after the insertion of a drastic amendment prohibiting further manufacture of intoxicating liquors during the war, and authorizing the President to commandeer existing stocks of distilled spirits.

It is hoped that by the time this issue goes to press, the bill will also have passed the Senate.

FOR THE HOMEMAKER

A COURSE IN FOOD ECONOMIES FOR THE HOUSEKEEPER

Mrs. Calvin has been sending out from the Bureau of Education a series of letters to home economics teachers. This twenty-fourth letter is reprinted, with some additional references and a few small changes, in the hope that it may be of value if directly in the hands of the housekeeper, especially if she is planning a club program. The full list of references is given, since some may be available in one library, and others in another. A fair knowledge of the topics given may be obtained if only the government bulletins are used—and these may be secured by any one.—EDITOR.

Lesson I. The Needs of the Body. Fundamental to any study of food economy is a knowledge of the needs of the body. This subject should be carefully developed by simple statements relative to the functions that food performs in the body and the quantities that are essential in different conditions.

References. Stiles, Percy. *An Adequate Diet* (Harvard Health Talks).

Lusk, Graham. *The Fundamental Basis of Nutrition.*

Mendel, La Fayette B. *Changes in the Food Supply and Their Relation to Nutrition.*

Farmers' Bulletin 142. *Principles of Nutrition and Nutritive Value of Food.*

Lesson II. How to Select Food. The planning of meals for efficiency and economy; providing a day's food requirements.

References. "Food Selection for Rational and Economical Living," by Dr. Langworthy. *Journal of Home Economics*, June, 1916.

Farmer's Bulletin 808, "How to Select Foods."

Rose. "Feeding the Family."

Lesson III. Care in the Handling and Keeping of Foods. Home Storage and preservation; careful preparation of food in cooking—factors essential to economy.

References. Farmers' Bulletin 375, "Care of Food in the Home."

Farmer's Bulletin relating to foods and their preparation.

Lesson IV. Small Economies. The vast majority of people probably do not have too much to eat, but rather they are careless in the handling of what they do have. Sum up the most common acts of carelessness

of which all are guilty: If in each of the 20,000,000 families in the country there were a saving of one teaspoonful of butter a total national saving of 200,000 pounds of butter would result; a saving of one teaspoonful of sugar per family would aggregate a saving of 700,000 pounds of sugar a saving on one slice of bread per family would mean a saving of 1,000,000 pounds of bread. Similar statistics could be worked out for the waste in the careless handling of foods.

The use of such luxuries as lettuce and cucumbers out of season should be considered from the standpoint of food value and financial expenditure.

Reference. Lusk. Food Economies, Journal of the Washington Academy of Sciences, June 19, 1916.

Food Thrift Series, U. S. Dept. of Agr.

Lesson V. What the Home Garden Should Provide. Fruits and vegetables that can be raised in the home garden; labor which is involved in gardening; economic and dietetic value of the garden.

References. Publications, School and Home Garden Division, U. S. Bureau of Education.

Publications, Department of Agriculture.

Publications, State Agricultural Colleges.

The Food Garden Primer. National Emergency Food Garden Commission, Washington, D. C.

Lesson VI. The Unnecessary Consumption of Food. Superfluous courses at daily meals; superfluous courses at special meals for social entertainment; refreshments at afternoon tea (note act in England prohibiting sale of pastries); light refreshments at social entertainments; prohibition of "eating between meals;" daily economy menus worked out as a local problem. (If economy in the use of food becomes an established fashion through the example set by the Cabinet ladies and others of high social rank, housewives in general will feel more free to exchange reports of their own private economies, those which they are practicing now and those which they know their mothers practiced in the past.)

References. Publications, Department of Agriculture. Reports of what has been done in England, France, Germany, and Italy as contained in magazine articles and Government reports for the past two years.

Journal of Home Economics, September, 1916. ("The War and Dietetics," and "A Triumph of Scientific Housekeeping.")

Lesson VII. Conditions Affecting the Cost of Food.

A. Cost of production: land values; seed expenses; labor prices; crop losses.

B. Cost of transportation: to place of shipping; rail expenses; local wholesale storage; distribution to retailers; local small quantity distribution.

C. Expense due to spoilage: in field or farmstead; in transit; in retail stores; in homes.

D. Relation of supply to demand at home and abroad.

References. Publications, Department of Agriculture.

Conservative newspaper editorials.

Weekly and monthly magazines of the past eight months.

Vulté. Food Industries. Canning and How to Use Canned Foods.

Food Economy in War Time. Cambridge University Press, London.

Journal of American Medical Association, April 28, 1917.

Sherman. Food Products.

Ellen H. Richards. The Cost of Food.

Lesson VIII. Conditions Affecting the Digestion of Foods. Age, work, climate, nervous condition, manner of cooking.

References. Sherman. Human Nutrition.

Hutchison. Food and Dietetics.

Jordan. Principles of Human Nutrition.

Ladies Home Journal. "What We Eat and What Happens to It," by Philip Hawk, December, 1916—June, 1917.

Department of Agriculture Bulletins.

Today's Housewife. (Series of articles, beginning October, 1916, by Caroline Hunt.)

Lesson IX. Feeding Infants and Children. A. The infant; B. The child from two to five; C. The child from five to fourteen; D. The youth from fourteen to twenty-five.

References. Bulletins, Department of Agriculture, Washington, D. C. Public Health Service, Treasury Department.

Children's Bureau publications, Labor Department.

The Children's Food. By Mary Swartz Rose. The Emergency Committee of the A. H. E. A., 19 W. 44th St., New York City. Price 5 cents.

Rose. Feeding the Family.

Sherman. Human Nutrition.

Lusk. Science of Nutrition.

Holt. Feeding of Children.

Morse. The Care and Feeding of Children.

Wiley. Foods and their Adulterants.

Starr. Digestive Diseases of Children.

Journal American Medical Assn., Nov. 11, 1916, p. 1413; Aug. 5, 1916, p. 432; Sept. 9, 1916, p. 814.

Journal of Home Economics, June 1917 (The Care of Children).

Lesson X. Results of Incorrect Diet.—Infantile diseases; digestive diseases among adults; susceptibility to infectious diseases; nutritional diseases.

References. See Lecture IX.

Public Health Reprints, Nos. 307, 311, 325, 333.

Public Health Supplements to the Public Health Reports, No. 5.

Journal of the American Medical Assn., April 21, 1917.

Lesson XI. Special Diets for the Sick and Convalescent.

References. See Lectures IX and X.

Journal of the American Medical Association, September 30, 1916.

Journal of Home Economics, January 1917 ("The New Feeding in Typhoid" and "Dietetic Treatment of Diabetes.")

Lesson XII. Community Feeding Problem.

References. Papers from the Institution Economics Section of the American Home Economics Association, 1915.

Journal of Home Economics, Feb. 1912.

Journal American Medical Association, June 3, 1916, p. 760; August 5, 1916, p. 432; Sept. 9, 1916, p. 814; Nov. 18, 1916, p. 1496; Jan. 6, 1917.

School Feeding at Home and Abroad. Lippincott, 1913.

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Recent Contributions to the Foundations of Dietetics, by Ruth Wheeler, November, 1915.

Mineral Nutrients in Practical Dietetics, by E. B. Forbes, March, 1916.

Practicable Ways of Increasing the Iron Content of the Diet, by Caroline Hunt, November, 1916.

Recent Work on Normal Adult Nutrition, by Katherine Blunt, December, 1916.

Vitamines or Life Preservers, by M. Helen Keith, December, 1916.

BARLEY COOKERY

DEPARTMENT OF HOME ECONOMICS, UNIVERSITY OF WISCONSIN

At this time of world-wide food shortage the large amount of barley (4,480,588 bushels in 1916) used annually in the United States for the malting industry might well be used for human food. The wisdom of prohibiting the use of available food for the production of alcoholic beverages is particularly pertinent at this time. It will be recalled that in a similar period of stress during the Civil War the Confederate States found it necessary to forbid the use of all food substances in such industries.

The utilization of barley for human food is not new. At the time of Charles I barley was eaten by the common people in England, and even as late as 1870 it was widely used not only in England but in northern Europe. In our own country it has been used in the form of flour for barley gruel and as a cereal diluent in infant feeding. The housewife is familiar with pearly barley, an important ingredient in "Scotch" broth.

The nutritive value of barley compares favorably with wheat. High grade barley contains approximately 15 per cent protein, while wheat averages 13 per cent. The carbohydrate, fat, and mineral content are about the same in both cereals. On account of the present wheat shortage the housewife should use barley as much as possible in order to extend the limited wheat supply.

Since the proteins of barley, when combined with water, fail to form the sticky, elastic substance (glutin) essential for the production of the typical loaf of bread, when used for this purpose some wheat flour should be mixed with the barley flour. When, however, the barley flour is used with eggs, as in cakes or muffins it may be used alone. Equal parts of wheat flour and barley flour or two parts of barley to one part of wheat make satisfactory mixtures.

In the recipes following we have used in some cases barley meal, which has a texture similar to that of corn meal. In other cases barley flour was used. Both of these products are on the market. Those who are far from the milling centers may create a demand by asking their local dealers to get these for them.

Following are the recipes suggesting ways of using barley meal:

BARLEY PONE

1 cup hot boiled hominy grits	$\frac{1}{2}$ teaspoonful salt
2 cups milk	1 cup barley meal
3 tablespoonfuls butter	2 teaspoonfuls baking powder
	2 eggs

Add the milk and butter to the cooked hominy grits. Cool, add salt, barley meal, and baking powder sifted together, then the well beaten eggs; pour into a buttered dish and bake in a moderate oven forty-five minutes. Cut in triangular pieces and serve from dish in which baked.

FRIED BARLEY BALLS

1 quart boiling water	1 teaspoonful salt
$1\frac{1}{4}$ cups barley meal	1 tablespoonful butter
	2 small eggs

Cook barley meal in boiling salted water at least one hour in a double boiler. Cool, add butter and well beaten eggs. Form into balls $1\frac{1}{2}$ inches in diameter, roll in flour, and fry in deep fat. Serve with syrup and butter.

BARLEY AS A BREAKFAST FOOD

2 cups water	$\frac{1}{2}$ teaspoonful salt
	$\frac{1}{2}$ cup barley meal

Boil water, add salt and barley meal, stirring constantly. Cook in double boiler one hour +, or in fireless cooker 12 hours. Serve with cream and sugar, if desired. Dates or raisins cooked with the cereal make a pleasant variety.

BARLEY TAPIOCA PUDDING

5 tablespoonfuls pearl tapioca	1 teaspoonful salt
4 cups scalded milk	2 tablespoonfuls sugar
4 tablespoonfuls barley meal	2 tablespoonfuls butter
$\frac{1}{2}$ cup molasses	1 cup milk

Soak tapioca two hours in cold water to cover. Pour scalded milk over barley meal and boil three minutes. Add tapioca (drained from water), molasses, butter, salt, and sugar; turn into buttered pudding dish and pour over remaining milk, but do not stir. Bake in a moderate oven two hours.

SCOTCH BROTH

3 pounds mutton from fore quarter	Carrots	} $\frac{1}{4}$ cup each
2 quarts cold water	Turnips	
$\frac{1}{2}$ tablespoonful salt		2 tablespoonfuls flour
$\frac{1}{4}$ teaspoonful pepper		3 tablespoonfuls pearl barley
	1 small onion	

Wash meat, remove skin and fat, and cut meat in small pieces; add water, seasonings, vegetables, barley, and flour mixed with a little cold water. Cook slowly from six to eight hours. As water evaporates, add enough to make up for that lost by evaporation.

BARLEY SCONES

1 cup whole wheat flour	2 tablespoonfuls lard or beef drippings
1 cup barley meal	$\frac{3}{4}$ cup sour milk
$\frac{1}{4}$ teaspoonful salt	$\frac{1}{2}$ teaspoonful soda
2 teaspoonfuls baking powder	

Sift flour, barley meal, salt, and baking powder together and work in lard with tips of fingers or two knives. Dissolve soda in a little cold water and add to sour milk. Combine flour mixture and sour milk to form a soft dough. Turn out on a well floured board, knead slightly, roll to $\frac{1}{2}$ inch in thickness; cut in diamond shapes and bake in a hot oven.

BARLEY MUFFINS

1 cup whole wheat flour	1 egg
1 cup barley meal	$1\frac{1}{4}$ cups sour milk
$\frac{1}{4}$ teaspoonful salt	$\frac{1}{2}$ teaspoonful soda
2 teaspoonfuls baking powder	2 tablespoonfuls beef drippings or lard

Sift flour, barley meal, salt, and baking powder. Dissolve soda in a little cold water and add to sour milk. Combine flour mixture and sour milk; add beaten egg and melted fat. Bake in muffin pans in a moderate oven.

BARLEY BREAD I

4 cups whole wheat flour	1 cup milk
2 cups barley meal	2 tablespoonfuls molasses
1 cup water	1 teaspoonful salt
$\frac{1}{2}$ yeast cake	

Boil milk and water and cool; add molasses, salt, and yeast mixed with a little cold water; stir in flour and barley meal which have been sifted together. Knead to a soft dough, adding more flour, if necessary. Cover and let rise until the mixture is double its bulk. Knead a second

time, form into loaves, place in well greased pans and let rise a second time until dough has very nearly doubled its bulk. Bake in a hot oven from one-half to one hour, depending upon size of loaves.

BARLEY BREAD II

4 cups whole wheat flour	2 tablespoonfuls sugar
2 cups barley flour	1 teaspoonful salt
1 cup water	$\frac{1}{2}$ yeast cake
1 cup milk	Follow directions for barley bread.

BARLEY SPOON BREAD

$\frac{1}{4}$ cup salt pork cut in $\frac{1}{4}$ inch cubes	1 cup barley meal
4 cups boiling water	2 or 3 eggs

Cook salt pork in saucepan until slightly brown, add water and when boiling, sprinkle in barley meal, stirring constantly. Cook in a double boiler one hour, cool, and add well beaten eggs. Turn into a buttered dish and bake in a moderate oven three-fourths of an hour.

BARLEY PUDDING

5 cups milk	$\frac{1}{2}$ teaspoonful salt
$\frac{1}{3}$ cup barley meal	2 tablespoonfuls sugar
$\frac{1}{2}$ cup molasses	1 teaspoonful ginger

Scald the milk, pour this onto the meal, and cook in double boiler twenty minutes; add molasses, salt, sugar, and ginger. Pour into buttered pudding dish and bake two hours in a slow oven. Serve either hot or cold with cream.

SPONGE CAKE

4 eggs	$\frac{1}{8}$ teaspoonful salt
1 cup sugar	$\frac{1}{2}$ cup barley flour
	1 tablespoonful lemon juice

Separate whites and yolks of eggs. Beat yolks, add lemon juice and sugar, then flour. Fold in well beaten whites of eggs, and bake in slow oven.

ECONOMY IN LEATHER

Attention is called by the government to the need of care in the use of leather.

Leather is demanded in war time for soldiers' shoes, for harness, for equipment of many kinds. In this country there is no such surplus

that we can afford to waste any of it; and it is wasting leather not to care for and preserve it properly. In the army and out, we all wear shoes. If we manage them rightly they will last longer; we shall not need so many new ones and there will be more left for others. The Leather and Paper Laboratory of the United States Department of Agriculture makes the following suggestions.

To save shoes, they should be oiled or greased whenever the leather begins to get hard or dry. They should be brushed thoroughly and then all the dirt and mud that remains washed off with warm water, the excess water being taken off with a dry cloth. While the shoes are still wet and warm apply the oil or grease with a swab of wool or flannel. It is best to have the oil or grease about as warm as the hand can bear and it should be rubbed well into the leather, preferably with the palm. If necessary, the oil can be applied to dry leather, but it penetrates better when the latter is wet. After treatment the shoes should be left to dry in a place that is warm—not hot.

Castor oil is satisfactory for shoes that are to be polished; for plainer foot-gear neat's foot, fish oil, or oleine may be substituted. If it is desired to make the shoes and boots more waterproof, beef tallow may be added to any of these substances at the rate of half a pound of tallow to a pint of oil. The edge of the sole and the welt should be greased thoroughly. There is no danger of applying too much grease to these parts.

A simple method of making the soles more durable, pliable, and water resistant, is to swab them occasionally with linseed oil, setting them aside to dry over night.

Many of the common shoe polishes are harmful to leather. All those which contain sulphuric, hydrochloric, or oxalic acids, turpentine, benzine, or other volatile solvents have a tendency to harden the leather and make it more liable to crack.

It is poor economy, too, to wear a shoe with the heel badly worn on one side. This throws the shoe out of shape and may soon result in its ruin. It is also likely to cause temporary injury to the foot.

We would add to these suggestions of the department that a further way to economize in the use of leather is to refrain entirely from buying the very high shoes, whose use has increased enormously the amount of material used; to wear low shoes as far as possible; to buy shoes of canvas or other material rather than leather; to use leather substitutes, some of which are very satisfactory, for new soles.

Do not increase the shortage by laying in a stock of shoes against possible emergencies.

CANNING AND PRESERVING

The young housekeeper of a generation ago turned at this time of year to the above heading in her cookery book, and began her preparation for long hot days of work over the coal or wood stove, fortunate if she had a cool veranda for the preparation of her fruit.

To-day "preserving" in the sense of pound for pound of fruit and sugar is rarely practiced, while even canning and jelly making have been among the industries disappearing from the home.

Fresh fruits available all the year round, as a result of cold storage and of better transportation facilities, and the enormous development of commercial canning industries, have made it possible to supply variety for the table at less expenditure of time and energy than was involved in the older method.

Help in carrying out the newer processes, as well as in the revival of some old ones, is offered in late bulletins of the Department of Agriculture. Explicit directions are given for three methods of drying, a process that should be used extensively this year since both tin cans and glass jars are scarce and expensive.

Fermentation, much used in European countries, is suggested for certain vegetables, such as beets, string beans, and cucumbers. The method of canning fruit without sugar is explained, and especially careful directions are given for the cold pack process of canning, altogether the easiest and safest method, especially for vegetables. Tables are included showing the time required for "blanching," "dipping," and "processing," for different fruits and vegetables, and under various conditions.

Perhaps the greatest change in method is in the making of jelly. The old rule of "pint to pound" is discarded, and samples of the fruit juice are tested with alcohol to determine the amount of pectin present, and the proportion of sugar adjusted accordingly. The pectin may be increased by the addition of some of the inner white rind of the orange or lemon, and the acidity, an important factor in successful jelly making, may be adjusted by the addition of lemon juice, or dilution with water. For one experienced in its use the thermometer is a great aid in determining the jelling point.

Not only are the Department bulletins available to anyone, but nearly every state through its Agricultural College issues bulletins of its own free of charge to residents of the state. Many of these are of great value. Articles in regard to jelly making and canning and drying fruit and vegetables have been published in the following JOURNALS: June 1917, June-July 1915, June 1914.

EDITORIAL

The Annual Meeting Postponed. At an informal meeting in Washington on June 2, at which several members of the Council were present, it was decided unwise to hold the annual meeting in August, 1917. This decision meets the approval of the executive committee, and of Miss Berry who was to have been our hostess.

This is a source of great regret to many of us who had looked forward to conferences that not only would inform us as to what others are doing in the present emergency but help us to make more adequate plans for our own work next year.

The final reason that influenced the decision was the fact that so many who usually attend the meeting will be unable this year to come at this time because of the immediate help in food conservation that must be extended to both city and country women.

Perhaps when the time comes to call the meeting, plans may be so matured that conferences will be still more helpful than they could be at present.

NOTICES

The meeting of the A. H. E. A. in connection with the N. E. A. is to be held on Tuesday, July 10. The program was published in the June JOURNAL. Reprints may be obtained from the JOURNAL office.

The A. H. E. A. will hold a meeting in connection with the Department of Superintendence of the N. E. A. in Atlanta next February. The Association headquarters will be at the Piedmont Hotel. Those expecting to attend should reserve rooms now.

The list of Affiliated Associations in the future will be printed quarterly instead of monthly.

Attention is again called to the announcement that the trustees of the Ellen H. Richards Memorial Fund and the University of Chicago jointly offer a Graduate Fellowship of five hundred dollars and tuition, to be used at the University of Chicago during the year 1917-18. Candidates must hold a Bachelor's degree and be equipped to do advanced graduate work in some phase of Household Administration. Application for the fellowship should be made before August 1, 1917, to the Office of the Graduate Schools, University of Chicago.

PROGRAM OF CONFERENCE OF SUPERVISORS OF HOME ECONOMICS, BENSON HIGH SCHOOL, PORTLAND, OREGON, JULY 6-7, 1917, PRECEDING THE MEETING OF THE N. E. A.

- 10.00 a.m.—Friday, July 6. *Special problems confronting home economics teachers under present war conditions.* Mrs. Calvin, Bureau of Education.
- 10.30 a.m. *Self-supporting food preparation classes.*
30 minute paper, Miss Edna Groves, Portland, Oregon.
15 minute discussion, Miss Adelaide Baylor, Indianapolis, Ind.
- 11.15 a.m. *Home economics departments and school lunches.*
30 minute paper, Miss Essie Heyle, Kansas City, Mo.
15 minute discussion, Miss Anna L. Post, Tacoma, Washington.
General discussion of morning work—30 minutes.
- 1.00 p.m. Lunch, Benson High School Building.
- 2.00 p.m. *Uniformity vs. variation in sewing problems.*
30 minute paper, Miss Fisher, Pasadena, California.
15 minute discussion, Miss Grace Johnson, Corvallis, Ore.
- 2.45 p.m. *Sewing in lower grades by grade teachers vs. sewing by special teachers.*
30 minute paper, Miss Prentiss, Berkeley, Cal.
15 minute discussion, Miss Amy L. Greenlaw, Sacramento, Cal.
- 3.30 p.m. 30 minute discussion of afternoon papers.
- Saturday, July 7. Breakfast at Seward Hotel 8.15 a.m.
- 9.30 a.m. *The practice house.*
30 minute paper, Miss Tingle, Portland, Oregon.
15 minute report on the Pendleton experiment, Miss Butler, Pendleton, Oregon.
- 10.15 a.m. *Home work with or without school credit.*
30 minute paper, Mrs. Dabney, Seattle, Washington.
15 minute discussion, Miss Demmon, Butte, Montana.
- 11.00 to 12.30 *Plans for next winter's work under altered economic conditions.*
Committee to report, and discussion to follow.
- 2.00 p.m. *The city superintendent and the home economics department.*
Supt. Francis, Columbus, Ohio.
Discussion, Mr. Engleman, Decatur, Ill.
- 2.45 p.m. *Difficulties encountered in securing adequately prepared teachers.*
30 minute paper, Miss Erich, Minneapolis, Minn.
- 3.15 p.m. *Stimulating growth of teachers while in service.*
30 min. paper, general discussion, Miss Bartlett, San Francisco.
- 4.00 p.m. Discussion of afternoon's work.
Automobile excursion to Council Crest. Tea at the "Anne Davenport Tea House."

NOTE.—Headquarters at Seward Hotel. Rooms with bath, \$2.00 for one person; \$4.00 if used by two.

THE QUESTION BOX

Question: Can you tell me where I can get information regarding management of a tea room, or anything connected with tea rooms?

Answer: "The Development of a Tea Room," by Grace A. Fowler, *Harper's Bazaar*, March, 1908.

"Tea Houses, The Brown Owl and Others," by Mary Northend and Katherine Wyman, *Good Housekeeping*, April, 1909.

"Roadside Tea Rooms, A New Industry," by Martha Cutler and E. B. Cutting, *Harpers Bazaar*, May, 1909.

"Taverns and Tea Rooms as a Business for Women," by Hermine Dudley and Sarah Seyburn Coe, *Good Housekeeping*, June, 1911.

"The Spectator," *Outlook*, June, 1913.

"Business Training for Women," Ethel M. Johnson, *JOURNAL OF HOME ECONOMICS*, November, 1915.

"An Application of Statistics to Budget Making for Lunch Rooms." By Roxana H. Vivian, *JOURNAL OF HOME ECONOMICS*, January, 1916.

"A Unique College Exhibit" by Ava B. Milam, *JOURNAL OF HOME ECONOMICS*, May, 1916.

"A Rare Boarding House." By Ella Kaiser Carruth, *JOURNAL OF HOME ECONOMICS*, March, 1915.

"Three Women and a Farm." By Ella Kaiser Carruth, *JOURNAL OF HOME ECONOMICS*, May, 1916.

"What Three Women Did With Their Home," by Una Nixon Hopkins, *Ladies Home Journal*, May, 1913.

"Step Inn, A Successful Tea Room," by Carolyn Pickett Moore, *Woman's Home Companion*, November, 1913.

"A Tea Room Rich in Household Suggestions," by Margaret Gray Blanton, *Delineator*, February, 1915.

"The Pullman Car Tea Shop," by Estelle Lambert Mattison, *Woman's Home Companion*, May, 1916.

"Tea Room Novelties," by Helena Judson, *Delineator*, May, 1916.

Technical educational bulletins, Teachers College, Columbia University, New York City.

To the JOURNAL OF HOME ECONOMICS:

In the December number of the *JOURNAL* it is stated in the article entitled "Recent Work on Normal Adult Nutrition" that "The quickness with which the energy of the sugars is available to the body is

quite notable. It may be shown by short time determinations of the respiratory quotient. Sucrose, lactose, levulose, and also alcohol, begin to be burned in appreciable quantity in five to eleven minutes; glucose and maltose require a longer time, from twenty to thirty minutes."

Since we are told that all carbohydrates must be changed to monosaccharides before they can be utilized in the body, I do not understand why glucose, which is supposedly ready for utilization, and maltose which is more nearly so than is sucrose, should not begin to be burned in appreciable quantities until twenty to thirty minutes while sucrose and lactose begin to be so in five to eleven minutes. Can you explain this? I shall appreciate it most gratefully.

Very truly yours,

SISTER LORETTO BASIL.

Answer: The experiments quoted were done by Higgins. As his figures show that both levulose and sucrose are burned in the body more quickly than glucose, he concludes that it is the levulose part of the sucrose molecule that causes the rapid action, with the latter sugar. The prompt metabolism of lactose is probably due to the galactose moiety. In other words, we are not justified in an assumption that all monosaccharides are burned more quickly than all disaccharides. Apparently levulose and galactose burn so much faster than glucose that their greater activity more than makes up for any time necessary for the hydrolysis of sucrose and lactose.

Higgins also calls attention to the fact that his high respiratory quotients for sucrose and levulose (maximum 1.145 and 1.105 respectively) may be due not only to oxidation in the body but to change to fat. "One might say in brief that levulose and sometimes galactose, judging from the respiratory quotient, show a tendency or preference to change to fat in the body, while glucose tends to change to glycogen and be stored as such."

The experimenters used 100 gms. sugar made up with water and cereal coffee to about 300 cc. and drunk rapidly.

KATHARINE BLUNT.

School of Education, University of Chicago

BOOKS AND LITERATURE

The Home Care of Sick Children (A guide for mothers in the care of sick children.) By EMELYN LINCOLN COOLIDGE, M.D. New York: D. Appleton and Company, 1916, pp. 282. \$1.00. By mail of the Journal, \$1.05.

A new generation of mothers is seeking information to insure the safe up-bringing of their children. Despite the best of care, illness manages to creep into the home. A knowledge of the home care of sick children is exceedingly valuable and tends to safeguard the welfare of the children in the face of emergencies and in the absence of available medical attendance.

Dr. Coolidge has drawn from her vast experience those specific methods of nursing assistance which may be given by any intelligent mother. Technical terms have been eliminated except where they are necessary for a thorough understanding of the condition under discussion although in a few instances words not in common use have been permitted to remain without an explanatory word or phrase.

At times a proprietary medicine has been advised when a real need does not exist as, for example, on pages 7 and 172. The author recognizes the fact that proprietary foods at times succeed in infant feeding where all forms of milk have failed, but states "they should be tried only as a *last resort*."

It is doubtful whether it is advisable to suggest a long line of treatment in conditions such as chronic gastritis of infants, when medical attention and intelligent advice demand more judgment and discrimination in treatment than the limited experience of a mother affords.

At times a false note is struck as, for example, on page 210, referring to masturbation, the statement is made "if the habit is

allowed to continue it may lead to forms of insanity." Probably such continuance is more likely to be the result of mental inferiority.

From the stand-point of presentation the book is to be recommended highly. Its principal defect consists in its surplus of material which may work to the disadvantage of the sick children if the mother assumes that as a result of reading or referring to this book she has attained efficiency in diagnosis. Its most practical value lies in its use as a book of reference in the home and not as a daily guide.

IRA S. WILE, M.D.

Minimum Cost of Living. By WINIFRED STUART GIBBS. New York: Macmillan, 1917, pp. 93. \$1.00. By mail of the Journal, \$1.08.

A study of families of limited income in New York City. According to Miss Gibbs the students of the family budget may have the viewpoint of the social statistician like Le Play, Engel, and, in our own time, Mrs. Moore and Dr. Chapin, whose chief interest is in the figures themselves and their place in a study that is broadly social; or their interest in the statistical side may be entirely due to the fact that these figures form the basis for improving the life of given family groups so that they become stronger units in the future. It is from this latter viewpoint that the studies have been made with which this volume deals.

Seventy-five families out of 150 studied are chosen as representative. In the families are from 2 to 8 children; 19 families are American, 28 are Irish, 17 are German, and there are a few of other nationalities.

These budgets were not the result of one season's work; for several years the families in question had been advised and helped in

the proper distribution of the income over their needs. It will astonish house keepers who consider the keeping of the expense account as a weary chasing of sordid details, to learn that it becomes in the hands of Miss Gibbs and her associates a means of education and enlightenment as to life values for the women under their charge, and many of the women found the keeping of the household budget, with its adjustments to needs and desires, a fascinating employment.

One must marvel at the tact and wisdom of the compilers of these budgets which enabled them to win the full confidence of the women of the families. As Miss Gibbs says, "it is a delicate matter to lay even the friendliest hands on home matters."

The financial history of these families is given in great detail. The full value of the figures for purposes of comparative study is only to be estimated by the special students in this line of work. It would seem that every carefully prepared family history would add to our precious store of "human documents."

Food Study. A textbook in home economics for high schools. By MABEL THACHER WELLMAN. Boston: Little Brown and Company, 1917, pp. 324. \$1.00. By mail of the Journal, \$1.09.

Miss Wellman has called her book *Food Study*. It does not try to cover the whole subject of food, shelter, and clothing. It is a carefully worked out presentation of the subject of food, based on the underlying principles of food preparation.

The author believes that "As in physics and chemistry, there are principles of cooking which are worthy of consideration, and, as in any science, they should be taught from an inductive standpoint," but she also believes that the student should use the "accumulated experience of mankind."

Miss Wellman has met what to the re-

viewer seems to be the present high school need—a text book with adequate dietetic content. She has interpreted scientific material that is not easily available for high schools and has presented it in a simple, clear, concise way. As an illustration we quote part of her statement in regard to the cooking of cellulose.

On page 64 she says, "Boiling in water does not change real cellulose at all just as cotton clothes are not changed by boiling The cellulose walls of a plant are stiffened with other related substances Cooking dissolves out some of these intercellular substances and also hydrates the starch, and so cooked vegetables are softened."

The arrangement of the book is unique, differing from that of other text books. Meal planning is taken as the basis of work, and the things necessary for a girl to know in order to plan, buy, and serve meals are the points Miss Wellman has made prominent.

She makes the laboratory work the direct application of science experiments. In a few instances the writer takes exception to the practical application, as, for example, in the directions for the poaching of an egg and the making of jellies.

The book is planned, not as a guide to teachers or as a reference book, but as a real text book to be used in class.

The writer feels that it is a most valuable contribution and recommends it to all interested in high school or normal school work.

JENNY H. SNOW,
Chicago Normal College.

CORRECTION

The Children's Food, by MARY S. ROSE, is for sale by the Emergency Comm'ttee of the A. H. E. A., 19 West 44th St., New York City, and not by the National Special Aid Society as announced in the June JOURNAL.

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NEWS FROM THE FIELD

A State-Wide Canning Campaign has begun in Iowa under the auspices of the Extension Department of Iowa State College.

Twenty demonstrators, chosen from the home economics teachers of the state began work on May 28. Each will spend two weeks in a county working in most cases with the county agent. Two cold pack canning demonstrations will be given each day in school buildings, churches, or country homes.

Each demonstrator carries a full equipment consisting of stove, containers for sterilizing, blanching, and cold dipping, together with all the necessary small utensils.

More workers are being added to the force and it is expected to give each county in the state a series of canning demonstrations before the season closes.

Two new workers have been added to the Home Economics Extension force in Iowa: Miss Grace Conlon who will act as Extension Instructor, and Miss Mary Kelley who will assist with the Boys' and Girls' Club work.

State Public Employment Office. A special department has been formed in the Brooklyn Office of the New York State Public Employment Bureau, for the handling of women and girls seeking work on farms, at gardening, nursery work, poultry raising, dairying, or other work in the country.

This special department is registering all women available, some thoroughly experienced, others less experienced, others with no experience, but anxious to enter this work. Some are experienced in other lines and have become interested in farm work. A few have taken up agriculture courses in colleges in gardening, etc. This Bureau

receives orders from farmers, nurseries, dairymen, and other employers for both men and women workers.

If any women are looking for such work, and if employers are looking for help, they are asked to avail themselves of the services of this office, which are entirely free. Address Women's Department. This is one of a chain of such offices in Rochester, Syracuse, Buffalo, Albany, Auburn, and Oswego.

The State Agricultural College, Fort Collins, Colorado, makes provision for the business training of the college girl, in a course in Commercial Law elected by many young women and proving to be most worth while. The course includes: The nature of law, and the sources from which the laws in this country have been derived; the fundamental principles of jurisprudence upon which rest the common transactions of business; the law of negotiable instruments, real property, business associations, agency, and chattel mortgages. It consists of lectures and readings, and is elective for juniors and seniors.

The Southeast Texas Industrial Arts Club met at Port Arthur, Texas, on April 13 and 14. The Club is in the second year of its existence and the work of this meeting indicated a very genuine interest in the organization, and especially in the standardization of industrial arts work.

Among other things the Club recommended that courses of study in the industrial arts subjects should be standardized as to amounts and character of subject matter covered in any given unit of work; that greater emphasis should be given to the study of house planning in the high school courses, and girls as well as boys should be encouraged to take this subject; that at

least one term of one-half year should be devoted to the general study of design before beginning its application to special subjects; that any course in design should be preceded by a course in free-hand drawing; and that industrial arts teachers must take the initiative in correlating academic work with their subjects.

Brief Notes. At the National Conference on Child Labor, Baltimore, Md., March 23-25, the topics for discussion were, Making Child Labor Laws Effective; Problems of Education; Reports from Special Fields; and Safeguarding Children in Peace or War.

The action most strongly urged throughout the conference was the defeat of any attempt to allow a national crisis to interfere with child labor laws already passed.

Miss York, formerly of Agnes Scott College, has been appointed Bulletin Writer and Assistant in Home Demonstration Activities in the Florida Home Demonstration force. Miss York is constantly in the office to see that the members of clubs are provided with proper literature and proper assistance in making plans for club meetings. A specialist in farm butter making is also to be added to this state force.

When the can situation became acute in Florida although a million cans had been placed in the homes of the people, Miss Agnes Harris of the State College went into the business and has handled three carloads of cans, in this way saving from \$15 to \$20 per thousand for the people who buy the cans.

Mrs. Calvin is to be in Portland for the meeting of the Supervisors of H. E. and that of the A. H. E. A., both held in connection with the N. E. A. She will visit the Washington Normal School at Cheney, Wash., the Oregon Agricultural College at Corvallis, Ore., the Utah Agricultural College at Logan, Utah, the Utah State University at Salt Lake, Utah, the Agricultural College of Colorado at Fort Collins, Colo., and the Kansas State Agri-

cultural College at Manhattan, Kans. and on, her return trip, will lecture at Chautauqua during the week of August 5.

Plans by which the women of the University of Chicago may aid in the defense and preservation of the nation, which were outlined in the May JOURNAL, are already being realized, one hundred and thirty women of the University having registered for work in First Aid, ninety for Social Service in War Time, twenty-five for Food Conservation and Production, and twenty-five for Voluntary Infant Welfare work. Several other groups of women have already enrolled and are being organized.

Of the 600 students at Goucher College, 550 signed the Preparedness Pledge (see page 326) and were enrolled in the following extra-curriculum classes in Specific Preparedness: agriculture, nutrition and food values, clinical work, wireless telegraphy, accounting, foreign languages, social service, mechanism of automobiles, typewriting.

Between eighty and one hundred of the Mount Holyoke students signed the "Goucher Pledge." It is expected that next autumn more will enlist upon some physical preparedness pledge of that sort.

For the Summer Session of 1917, which begins July 9, Teachers College is offering a greater number and variety of courses than ever before. There will be no decrease whatever in this offering due to the present state of war. The full Summer Session of Teachers College and other parts of Columbia University will be conducted as usual.

For the academic year 1917-18, which begins September 19, Teachers College has also planned an extensive increase in its courses. This work will go on as originally planned without modification due to the war.

The Conference of Community Centers, held in Chicago in April, 1917, recognized the need of home economics in its work by appointing, for the first time, a Home Economics Committee of which Miss Alice Boughton is chairman.

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THE DEVELOPMENT OF THE HOUSE¹

HELEN BINKERD YOUNG

Architect, Home Economics Department, Cornell University

Ever since home economics began to be studied, we have been trying to develop an intelligent standard of living and we have been trying to fit this new scheme of things into houses that were never designed to take it. Consequently there has been a good deal of friction and lost motion. The struggle with imperfect dwellings has clogged our courses in sanitation and household management with much material that is in the end nothing more than a fresh patch on an old sore. Clearly this is not the final method of solution for an educational program on the house. So it has been found necessary to approach the problem the other way round; to base the development of the house on the new scheme of things, so that it shall be a true expression of our social, economic, and artistic needs.

Since houses are intended to live in, the conception of the house must take its cue from our conception of living, the form must fit the function. It would seem then, that to arrive at an intelligent understanding of the house, we must begin with a sort of theory or philosophy of the house as a background, just as we must have a sort of philosophy concerning food and concerning clothing. This means that our house unit must be capable of analysis, of organization, and of enhancement. We must be able to think in terms of a theoretical house before we can think safely in terms of an actual house. We must be able to think in

¹ Presented at the Ninth Annual Meeting of the American Home Economics Association, Ithaca, N. Y., 1916.

terms of space, of floor areas, of arrangement and of proportion, before we can safely think in terms of rooms. Matters of cost and details of planning are of minor importance in developing a house intended to be theoretically sound in principle. Economic and aesthetic considerations of a broad nature should be the governing factors.

If we think of the house, not as rooms, but as an enclosed space, we find ourselves wondering as to the amount of this space, its general proportions, and its disposition for use into smaller parts. In other words we are faced with certain mass considerations of size, of shape, and of arrangement.

It is with these mass considerations that our theory of the house should begin.

Take for example the matter of size. Here the needs and means of the family are the chief factors to be considered. Theoretically what is wanted in any case, is an economic answer to the problem: an amount of space greater than which would involve waste and less than which would involve friction. Although it is easier to describe this efficiency area than it is to find it, it can nevertheless be approximated from several sources.

Usually the amount of sleeping accommodation needed will be a guide. Thus if one knows that three bedrooms, bath, and hall can be developed within a minimum area of from 700 to 800 square feet, and that four bedrooms, bath, and hall can be developed within a minimum area of from 800 to 1000 square feet, one concludes that, based merely on the sleeping space item, a family of from two to six persons can be comfortably housed in a two story dwelling having from 700 to 1000 square feet of space on a floor. More area will bring larger or more rooms.

The limiting cost of the dwelling is also a guide to its size. Thus, if a house of given standard in a given locality costs a certain amount per cubic foot, and a man has a fixed sum to spend, he can find out before starting to plan his house just how much cubic space he can buy with his money.

The marketability of property also somewhat affects the size of house that is built. It has been found that in most localities, houses with four or more bedrooms are more marketable than those with two or three.

Thus out of a discussion of the various factors that bear upon the general size of dwellings, one forms at length an intelligent conception of what is relatively a small house, or relatively a large house; of about what accommodation a house of given size should afford or about what

is the minimum size for a given problem. This background conception of size gives one a sense of scale and values, and serves as a check on crowded or wasteful planning. While in no sense a rule, it becomes, for the time being, the typical case or standard of measurement for size.

In a similar manner the mass shape or form of the house may be analyzed. Thus the square house, the slightly rectangular house, the long house, and the angular or T-shaped house have each their own statement to make concerning the cost of building and upkeep, and concerning the general design. Here we find the first cost, the upkeep, and the paths of travel to be least in the perfectly square plan, increasing constantly as the differences in proportion increase and becoming greatest in various forms of angular plans. But however economical the square plan, it is a stupid type to design; while rectangular and irregular forms are both more designable and more picturesque when built.

Out of this analysis and a discussion of such features as height and manner of roofing, one forms at length a comprehension of mass form as affected by economic and artistic considerations.

As concerns the subject of mass arrangement, we turn at once to an organization of space that shall correspond to an organization of house activities. These may be broadly classed into three groups: work, recreation, and complete rest; hence the house space may be correspondingly organized into three groups, working area, recreative or living area, and sleeping area. While in reality these three groups merge and overlap, theoretically, at least, this brings three clear-cut divisions of space, each of which is distinct in use, in arrangement, in decorative character, and in furnishing or equipment.

According to this arbitrary division, the working area should provide for those specific forms of labor that are necessary to the physical life of the household. To this area belong kitchen, pantry, laundry, stairs, and passage, and whatever storage or porch space is needed to complete the usefulness of these parts. Since, owing to the nature of the work, the worker must walk or stand most of the time, limited space, short paths of travel, and convenience of tools are important. As regards decoration, with the possible exception of the stairs, the working parts should be light colored, with clean, washable surfaces, and should be furnished preferably with fixed equipment. In plan, the salient characteristic of the working area should be compactness.

The living area should provide for interests of a recreative, hospitable, or studious nature. To this area belong entrance hall, living and dining

room, library, study or den, and whatever storage or porch space is needed to complete the usefulness of those parts. Owing to the leisurely nature of its use, the living space should be generous in layout and both restful and decorative in general effect. In plan, the salient characteristics of the living area should be spaciousness.

The sleeping area should provide for those needs that are connected with personal bodily rest or refreshment. To this area belong bedroom, dressing room, bath, hall and whatever storage or porch space is needed to complete the usefulness of this group. Owing to the nature of its use, the sleeping space should be light, airy, retired, and intimate in its parts. In plan the salient characteristics of the sleeping area should be privacy.

Thus the organization of the plan into functional areas furnishes the clue not only for the arrangement of the house, but for the decoration and furnishing as well.

It will be found upon further investigation that these areas bear a certain flexible relation to each other in various types of dwellings: thus the proportion of the working space to living space is least in the apartment and greatest in the farmhouse, varying from about 10 to 50 per cent, with the suburban dwelling about half-way between. Or comparing the sleeping space to the other areas we find that in a normal two story house, the sleeping area is equal to the sum of the living and working areas. Or, conversely, if the sleeping requirement is small or is less than the sum of these areas, or if it is relatively greater than the sum of these areas, we have a clue as to the relative possibilities of one, two, or three floor developments, which helps us to interpret the case of the bungalow, apartment, cottage, or large residence.

Going still further it will be found that each subdivision, unit, or room in each area can likewise be examined and interpreted. Thus the functions of size and location of the hall and stairs can be discussed in a general and detailed way. Thus also may be discussed the relative size, proportion and inter-communication of the living rooms, the meaning of axes and vistas, the relation of wall spaces and openings. Thus also may be analyzed the essential elements of the compact working area and the private sleeping area.

After one has acquired a theoretical grasp of the subject of the house, definite problems in planning may be undertaken. Here the individuality of the house comes into play. The development of a house to suit a given site, a given family, or a given cost, introduces factors that give variation to each problem, so that each house should have an individual

solution. Of these factors, that of site should always be considered, for while people move from place to place, houses do not. Therefore, from the start, a dwelling should be made to partake of a character peculiar and fitting to the spot on which it stands.

It is not enough that a house shall be sound in principle. It should be individual in design as well. It should have style, personality, and decision, both inside and out. Design in houses corresponds to individuality or personal magnetism in people. It is that quality which sets it apart from its fellows or lifts it out of its type. By force of its design, a house expresses itself. It says something individual about the family or its site. It makes appropriate remarks about sunlight, view and garden, about vistas and proportions. Its function is to strengthen and to enhance.

To the claims of exterior design the American people as a whole have been sadly unresponsive. In general, if houses have been convenient and livable within, it has sufficed. The result has been an epidemic of hard, unblinking structures, mere practical statements of shelter, utterly lacking in style and charm. Public taste has naturally been stupefied by the mere frequency of such unlovely models. The time has come when it should be the obligation of every property owner to attend to the aesthetic aspects of his place. It should be a matter of common acceptance that no man has a right to own property until he can afford to consider more than its commercial value.

But a true conception of the house demands not only that a dwelling be well-planned and well-designed; it must also be soundly built. This implies an understanding of construction and a comprehension of the nature and use of building materials. An educational program which is considering construction should not confine itself to the practical details of building, but should examine new materials and detect their influence on the whole trend of building. Instead of being content with knowing how to finish and care for wood floors, we should rather inquire whether wood is a reasonable material for floors. To be sure it is claimed that it is easy to walk on but it is we who do the walking, not the floor; so if we can find a durable material requiring less care, we had better put the wear on the people instead of the floor: we had better rubber-heel the world. How about the whole nature of wood? What is its normal use? How is it abused? How about frame houses and the problem of forest preservation? Is not the timber house already economically a thing of the past—considering upkeep, insurance,

and deterioration through a term of years? What is the significance of these new clay and concrete products? What their value to the coming generation? How will they affect the design, the upkeep, and the care of dwellings? It is better to discuss such themes with students than to fix in their minds the details of doors, windows, and the like, unless it can be made clear to them that these are but illustrations of the principles of construction in general.

The regulation of personal property is not, however, our whole responsibility. We should learn to mentally scour the field, and catch the trend of housing manifestations in the aggregate. We should learn to comprehend the significance of community schemes of planning; to understand that the erection of multiple dwellings, whether apartments, flats, tenements or two story dwellings, has a peculiar significance for the people of that community; to see the connection between housing and town planning and to detect and forestall problems of housing wherever a network of conditions brings them into play. As women who are to guide the homemaking population of the future, we should be in the van of every movement which aims at wholesome housing, not only for ourselves but for the whole population.

WHY THE LARGE CALORIE?

FREDERICK A. OSBORN

Department of Physics, University of Washington

The use of the metric system in scientific work with its definite names for the multiples and sub-multiples of the units, has become almost universal. The gram with the milligram and kilogram, the meter with the centimeter and kilometer, and the liter with the kilo-liter are familiar terms to everyone.

The physicist in making use of the metric terms in defining the physical units has without exception accepted the recognized names for the multiples and sub-multiples of these units. The gram-centimeter as a unit of work has for its multiple, not the *large* gram-centimeter, but the kilogram-meter. This practice enables the student to see readily the magnitude relation between the two units and avoid any possible misunderstanding as to the particular magnitude used.

Among the units for quantity of heat, the calorie has long had, to the physicist, a definite and single meaning. If the numerical value for the amount of heat is large, he has expressed the amount in *kilo-calories*, or sometimes, in calories multiplied by the factor 10 raised to the proper power, as 45.6×10^3 calories.

For reasons that are unknown, at least to the writer, some branches of science have departed from the recognized and accepted names for the metric unit and have come to use the expression "large calorie" for the unit of quantity of heat 1000 times greater than the calorie. The correct term, kilo-calorie, is seldom or never used. Having selected an odd name for the kilo-calorie, the writers proceed along two absolutely contradictory lines to inform the unfortunate reader how the distinction is to be made between the calorie and the kilo-calorie or large calorie. The quotations which follow will clearly show this.

For measuring the heat value of foods, one employs, for convenience, the *large* calorie, i.e., the amount of heat required to raise 1 kilo of water 1°C., and one writes it *Calories with a capital C*. (Hutchison, Food and Dietetics, p. 4.)

This use of the capital C is evidently to be a short hand device for the longer expression, kilo-calorie or large calorie, and seems satisfactory until the reader comes across the following:

They assume that the food requirement of 100 men, women, and children is the same as that of 77 "men." Therefore each "man" received 4000 calories daily (Lusk, Food Values, *Science*, April 13, 1917.)

In view of the statement above we rather naturally assume that the 4000 calories mentioned do not mean large calories, and so come to wonder if it is an anti-fat diet that is being discussed.

Again, let us get our information concerning the unit for the quantity of heat from the following:

Since the measure for heat is a calorie, or the quantity of heat required to raise 1 liter of water 1°C., etc. (Lusk, Fundamental Basis of Nutrition, p. 6.)

This definition leads us to assume that evidently there is only one *calorie* after all, and hence there is no need whatever to try to distinguish between it and another non-existing unit. Just as we are getting

convinced that we cannot make any mistake since the word calorie has but one meaning, we read in a footnote:

When the term "calorie" is used in this work, it will be understood to mean the greater calorie. (Sherman, Chemistry of Food and Nutrition, p. 121.)

Evidently there are two calories after all, and they may sometimes be distinguished by using a capital C for the larger one or by using a small c and adding a foot-note calling attention to the fact that the word calorie as used does not mean the calorie at all, but always a unit 1000 times larger.

Finally, a worker in those branches of science that permit this loose use tells us that we are to pay no attention to capital or small C but to keep in mind this simple fact: The only calorie that is used by us is the large calorie, and so any uniform or special designation is unnecessary. We see at last the end of our confusion and uncertainty. We therefore, at first, read with no question the statement in Vegetable Proteins, by Osborne, that *glutenin* from wheat has a fuel value of 5543 calories per gram. Somehow, there comes into our minds the fact that hydrogen, which has the highest fuel value of all substances, is credited with but 34 of our undistinguished, non-capitalized but large calories. We now give up in despair.

The writer's experience as a teacher of physics with over two hundred junior students of home economics has fully convinced him that the great majority of students are seriously confused by the present loose use of the term calorie. He wants to know if there is any valid reason for the expression "large calorie" with its seemingly uncertain designation. Why should not the term kilo-calorie always be used when a heat unit 1000 times the calorie is meant?

If there is no valid reason for keeping the present indefinite term or for not using the definite and orthodox kilo-calorie, will not teachers of home economics insist on the use of the kilo-calorie in all of their work? The reform would be started and the poor physicist when he visits a standard ration exhibit and sees a placard, "this is a 100 calorie portion," would no longer be in doubt whether to select a half dozen of them for his lunch or, not being very hungry, to order only four or five thousand portions.

A DESIRABLE CHANGE IN THE TEST FOR SILK AND WOOL

JEAN G. MACKINNON

Household Science Department, University of Illinois

When testing for the presence of cotton in wool materials, the average class in textiles uses the KOH test as given in such standard texts as Matthews' Textile Fibers, Dannerth's Methods of Textile Chemistry, or Woolman and McGowan's Textiles. The directions for the experiment in each of these texts state that the sample to be tested should be boiled for fifteen to twenty minutes in a 5 per cent KOH solution, keeping the volume of the solution constant by using a reflux condenser. If the test is quantitative, then a correction of 3 to 5 per cent of its weight is added to the weight of the cotton residue in order to make up for any loss in weight which the cotton may suffer in the long boiling in the KOH solution. When following these directions it is always very evident that the wool is destroyed a number of minutes before the expiration of the time allowed for the reaction, and the question naturally arises whether the same concentration of KOH solution could not be used for a shorter period of time, or a more dilute solution for the same period of time, and if these changes were made, what effect they would have on the loss in weight of the cotton residue.

A study¹ was made on the first phase of this question, and experiments, carried on to determine whether a 5 per cent solution of KOH would not destroy wool and silk in a shorter period of time. Fifty tests each were made with samples from six all wool fabrics and six wool and cotton fabrics. These materials included batiste, challie, flannel, shepherd's plaid of different grades, striped wool material, tweeds, and danish cloth. Similar tests were made with silk fabrics. In this case the materials used were moire, taffeta, poplin, pussy willow, messaline, crepe, and crepe de chine. The results were as follows:

Result of shortening time

MATERIAL	CONCENTRATION KOH SOLUTION	TIME	RESULT
	<i>per cent</i>	<i>min.</i>	
Wool	5	2	Destroyed
Silk	5	4	Destroyed

¹ L. A. Taggart and J. G. MacKinnon, Iowa State College.

Since silk is always characterized by a greater resistance to alkalis than wool, it could hardly be expected to be acted upon in as short a time. However, it did disappear in four minutes, while wool required only two minutes of boiling.

The second phase of the question was whether a more dilute solution of the alkali could be used for the time stated in the directions. In this case the same materials and the same number of tests were made as with the 5 per cent KOH solution, the only change being in the concentration of the KOH solution. Experiments were made with 1 per cent, 2 per cent, and 3 per cent KOH and gave the following results:

Result of weakening solution

MATERIAL	CONCENTRATION KOH SOLUTION	TIME	RESULT
	<i>per cent</i>	<i>min.</i>	
Wool	1	20	Destroyed
Silk	1	20	Not destroyed
Wool	2	10	Destroyed
Silk	2	15-20	Destroyed
Wool	3	4	Destroyed
Silk	3	10-15	Destroyed

Again we notice the resistance of silk to the boiling alkali solution. The time required for the 1 per cent solution to destroy silk was not determined as it seemed impractical for most class work to increase the time element. The variation of time in the results for the 2 per cent solution was due to the proportion of Tussar silk present.

The last part of the problem was to discover the effect of this decrease of time of boiling of the 5 per cent KOH solution on the loss in weight of the cotton residue. The results of this part of the experiment were variable.

Series	Average <i>per cent</i>	Series	Average <i>per cent</i>
1	1.23	5	1.51
2	1.47	6	1.00
3	1.14	7	0.98
4	1.30	8	0.96

Each series consisted of 10 experiments with the same cotton material. This loss in weight is undoubtedly affected by the absorption of KOH by the cotton and is a factor which will have to be considered before any accurate determination can be made.

It is very evident from these results that in handling the ever increasing numbers of students in textile chemistry, a decrease may be made in the time element in the laboratory directions, and, instead of boiling the wool samples for fifteen to twenty minutes in a 5 per cent solution of KOH, they may be boiled for two minutes. In the case of silk, the directions may be changed to four minutes of boiling in the 5 per cent KOH solution instead of the twenty minutes. If economy of material is to be considered, the samples may be boiled for twenty minutes in a 1 per cent KOH solution if wool is being tested, and a 2 per cent KOH solution in the case of silk. If quantitative determinations are being made and the time of boiling in the 5 per cent KOH solution is reduced to two minutes, the correction for the loss in weight in the cotton residue is probably 1 to 1.5 per cent rather than 3 to 5 per cent.

A HOUSEKEEPING CENTER

AMY R. GOTT

Rockford College, Rockford, Illinois

One who reads the series of books on Practical Homemaking by Miss Mabel Hyde Kittredge, or who visits the housekeeping centers established through her influence in the New York schools, is impressed by the value of such a method of teaching and usually filled with a desire to follow this movement for better training in homemaking for grade children, by the establishment of such an equipment in her own locality.

The difficulties confronting a teacher wishing to carry out such a project are many, especially since it is often necessary to interest a community before the necessary funds are forthcoming. The following account is given to show that a project may be started with the expenditure of a small amount of money, coupled with a large amount of initiative.

The young women majoring in home economics in Rockford College, have established a small homemaking school to be used in connection with their practice teaching in the public schools. A three room house

in the factory district is rented at a small sum, and furnished simply, but as far as possible in conformity with the dictates of good taste. The rent is supplied by an interested friend, and the total sum expended for furniture was about \$35. This was made possible by loaned furniture, use of the facilities offered by the second hand stores, and a few gifts.

The kitchen contains a coal range which heats the house, two work tables, a stool, and garbage can, with a small simply furnished pantry and cleaning closet. The dining room has a table and chairs with some rocking chairs, as this room must be the living room as well. The bedroom is very simple, but as pretty as it could be made with cretonne and dimitry. Since the house has no modern plumbing, there are all the problems in sanitation to be found in the humblest home. The house linen, bedding, and hangings are plain and inexpensive, but neatly made and immaculate. The pictures make an appeal to a child's imagination, and convey an idea of the beauty of home life.

Each class consists of girls from ten to twelve years of age. A series of lessons in cooking is planned with a meal in view, and in each lesson something is done with that as a goal. This means that all the details concerning a meal in the home are emphasized, from the marketing, preparation, and service of the meal, to the clearing away and the disposal of the garbage. The children may invite guests to the final meal, making it an event in their school life. Another time they prepare for a party, and another for a picnic lunch.

Lessons are planned also on cleaning, care of the bedroom, care of the baby, and any other phases of home making which seem especially needed by the children.

On account of the size of the public school classes, it has not been found that the homemaking school can take the place of laboratory classes, but it provides an excellent means of making the lessons more real and of providing a motive for them. As has been said, one purpose of teaching home economics in the grades is to develop a popular conviction as to the need for training in homemaking when the time comes for a girl to make a home, after her four or five years in industry. As a means of developing that conviction, we have found the housekeeping center excellent.

THE LUNCHEON AS A PROJECT IN ELEMENTARY AND SECONDARY EDUCATION¹

JENNY H. SNOW

Supervisor Household Arts, Chicago Public Schools

I sometimes think that Colonel Parker, one of the greatest educators of our times, had a vision of the possibilities of a real school way beyond what he gave to his students. That last year of his life a small group of us sat in the class room and listened as he tried to impress upon us that the education of the whole child took place only when that child had a motive for the doing of the tasks asked of him. Colonel Parker's motive and the present "project" seem to me to be closely related if not one and the same thing.

Could a child have a better motive for the preparation of food in school than the noonday luncheon? The answer to this question may be a varied one. The subject must be studied from many standpoints. The conditions in a rural place and in a large city are entirely different and the ordinary size town has the most difficult problems of all.

May I speak from the standpoint of the large city and tell you some of the things we have been doing and are planning to do in Chicago?

We have two lines of work where the luncheon has been used as a project in teaching food. One of these is in the Lucy Flower Technical High School. Miss Wells, Principal of the High School, gives this account of it.

The lunchroom itself shows one of the most obvious and necessary applications of school activity to daily needs. Its service is organized as regular classwork under the charge of a teacher in the department of household science. Classes that have already had some training in the laboratory kitchen and the laundry prepare the noon meal for the teachers and pupils who wish to buy. For obvious reasons the lunchroom is not open to uninvited outsiders. A student manager for the day plans the menu, does the necessary marketing, assigns to the other members of the class the various tasks in the processes of preparation, and is responsible for placing the lunch on the serving tables at the end of the hour and a half of time allotted to the work. In the more advanced of the two "lunchroom classes" the managers are required to keep the expense accounts and to balance them once a week with the office.

When the lunch period is over, girls from the lowest class of the prevocational

¹ Presented at the meeting of the American Home Economics Association, Kansas City, March, 1917.

department of the school wash the dishes and put the lunchroom and kitchen to rights. For this service they are paid at the rate of five cents for forty-five minutes' work. No girl is expected to work longer than this period in any one day. Visitors who smile at the scale of wages become respectful when they consider that five cents five times a week pays half a girl's carfare, and that without this help some girls could not remain in school. The lunchroom, opened November 10, 1911, has already paid to students for service rendered over \$400 besides supplying free lunches to all who help in the preparation of the food.

The financial aid is, however, the least benefit derived from their lunchroom service. They are trained to work quickly and thoroughly. They make the glass and silver shine. They wash the dish cloths and dish wipers so carefully that they will bear inspection at any time. The work must be finished in fifty minutes. Sometimes the helpers work so fast that the teacher who is with them has time to read aloud for a few minutes from an entertaining book that has nothing to do with lessons. Not infrequently the girls are left to do their work entirely alone, and nothing gives the principal of the school greater satisfaction than to send a visitor into the kitchen to see what is going on while she remains out of sight and hearing. Do girls ever object to the lunchroom work? Occasionally, but when such a case arises, the student is excused from the work until her objection disappears in the face of public opinion. Usually we have a waiting list of pupils who are anxious to help. Self-respect, power, responsibility, dignity, and a distinct quickening in other phases of work—these are the fruits of service in the lunchroom.

We all contribute to the lunchroom at one time or another, and we are all served by the lunchroom by one way or another. Its service to us, and our service through it to each other, is concrete, necessary, and pleasant. It gives point and meaning to the rest of the work in household science. The lunchroom is in truth the center of our family life.

The conditions here have been almost ideal—the school has been small enough so that the problems involved could actually be handled by the students under the direction of a very skillful teacher.

Another entirely different phase of the work is the preparation of teachers' luncheon trays once a week by the elementary cooking classes. This was started to meet two needs—first, to give the teachers a hot luncheon once a week, and second, to help finance the department. Sometimes the finances are low and the cooking classes are cut to $\frac{1}{2}$ cent per pupil per lesson. Have you ever tried to give lessons at $\frac{1}{2}$ cent each? It is a good problem in mathematics for the teacher but that is its only value.

I believe thoroughly in this plan of luncheon trays; it allows the children to work in larger amounts, and helps to standardize their finished products. They learn more about the preparing of meals and the cost of food materials than in any other way possible in large city schools. There is a pathetic side to this, as there is to most things in life, for a hungry child may prepare one of these trays for some one else to eat.

The penny luncheons and recess luncheons were started simply to meet the needs of hungry, underfed children.

One of our critic schools is in an Italian district, and one morning I visited four or five first grade rooms with the principal. She asked the children what they had had for breakfast, and, with only three or four exceptions, over two hundred six year old children answered "Coffee and cake." Cake means white rolls with sugar frosting. When one realizes that liquor had been put in most of that coffee is it any wonder that the children get sleepy in school and seem stupid?

The problem that faced us was "What are we going to do for these children?" A recess luncheon and a noon penny and two penny luncheon were started in that school. This only touches the problem, but it helps somewhat.

Can those luncheons be made a project in education? No, they can not. The making of soup or cocoa for from four to six hundred children has no educational value for the ten year old child. It is a purely mechanical process that can be done by the least expensive kind of labor under the supervision of the teacher of home economics. Nor is the daily washing of dishes for 600 of any educational value.

A great danger, and one to which we must open our eyes is the use of children in the schools for processes which have no real value as training or education.

In another one of our critic schools we have tried the feeding of certain groups of children. These are children who show by certain tests that they are below normal. The blood test is taken by the school doctor outside of school time, and the rest of the tests are given by the psychology department. The Parent-Teacher Association pays for the food. The advanced students of the Household Arts Department at the Normal College prepare and serve the food, under the direction of the critic teacher. A careful record is kept of each child and of the kind and amount of food given. The tests are repeated at certain intervals. Decided improvement is shown very quickly both in the response to the tests and in the child's work in school. We wonder

in these times of efficiency when educators are going to wake up to the fact that it is a great waste to try to teach hungry, underfed children.

A large problem that faces us in Chicago is the high school lunch rooms. These are being taken over by the Board of Education and put under the direction of a household science teacher. Just how far these lunch rooms can be used as a project in education is still a question. I fail to see in the regular high school how very much use can be made of them from that standpoint. A close relation between class work and lunch room is possible. The lunch room can use the products of the class work, thus allowing the children to work in larger quantities and with the incentive for good finished products.

The whole subject of the noon day luncheon is a much larger one than is represented by this discussion. It is one that must be taken up by the training schools for teachers. Our city teachers today must be able to run lunch rooms and they must be trained for it.

NEW TABLES OF WEIGHTS AND MEASURES

(For future arithmetics)

4 ears of corn	= 1-pint of milk	10 lumps of soft coal	= 1 lump of hard coal
4 pints of milk	= 1 egg	2 lumps of hard coal	= 1 16-oz. gold nugget
12 eggs	= 1 pound of butter		
128 pounds of butter	= 1 barrel of flour		
2 barrels of flour	= 1 potato		
2 potatoes	= 1 16-carat diamond	10 rusty pen points	= 1 blotter
		6 blotters	= 1 3c. postage stamp
		6 3c. postage stamps	= 1 bottle of ink
		10 bottles of ink	= 1 bushel of waste
2 pans of ashes	= 1 match	25 bushels of waste	paper
10 matches	= 1 stick of kindling	paper	= 1 pound of news
12 sticks of kindling	= 1 shovel of coal	10 pounds of news	print
160 shovels of coal	slack	print	= 1 Ford automobile
slack	= 1 lump of soft coal		

WHAT THE HOME ECONOMICS TEACHER CAN DO¹

One of the criticisms which the home economics teacher meets most frequently is that she is impractical and extravagant in the use of food products. Such criticism may have been deserved at one period in the teaching of foods and cookery, but for some years there has been a growing emphasis on questions of practical economy. Nevertheless, the present crisis in the food situation comes as a direct challenge to all teachers of foods and cookery in the United States. Their scientific knowledge, their technical training, and their close relation to the homes of the community in which they teach, give them a unique opportunity to serve their country at the present time. The value of the home economics courses in our schools will be put to the test as never before, and all who have had the privilege of pursuing such courses, from the child in the grades to the college graduate, will be expected to contribute to the solution of the national problem. . . .

For the large majority of teachers of home economics increased emphasis on the subjects which form a legitimate part of the daily instruction in the classroom, and the assistance that they can render to those outside the schools along similar lines will be the best service they can render.

Proper food selection and service, to help in the elimination of waste and the control of extravagance, are the basic factors that should receive emphasis in every school kitchen. The factors having to do with the regulation of cost must be studied in so far as possible. The local market should be used as a class laboratory to a greater degree than has yet been done in our home economics teaching, and wise buying should be emphasized as both an individual necessity and a national responsibility.

A minimum food standard for effective work must be discussed. A study must be made of the methods of cooking for the combined purposes of elimination of waste, improving the digestibility of foods, and simplifying combinations, in such a manner that both time and materials are economized. The substitution of those foods which will be plentiful for those of which there is apt to be a scarcity during the coming seasons must be urged. The products of the home garden should be utilized to the fullest extent, all the surplus—that for which there is no

¹ From Home Economics Letter No. 19, issued by the Bureau of Education, Washington, D. C.

need during the summer months—being dried or canned for winter months.

Simplicity in the planning of meals and in the service of foods is of as great importance as care in cooking. Those features of service which only multiply the factors of expense without increasing personal comfort and social satisfaction should receive condemnation in our home economics courses and the extravagances to which they lead should be pointed out as dangerous to the development of the proper spirit of economy.

It is not sufficient that the home economics instructor emphasize the fact that from the time the food enters the market until it is consumed at our tables there is danger of wastefulness in every step of its handling, that each process in its preparation by the housekeeper for use at table involves problems worthy of careful study, and that individual and community habits of eating must be intelligently controlled; she must also be prepared to offer a constructive program for the immediate improvement of conditions within her own community, enlisting the active coöperation of all of her students and the hearty endorsement of their parents.

FOR THE HOMEMAKER

WE'RE ALL IN THE SAME BOAT

Our first military need in this crisis is an adequate food supply. European nations have learned by bitter experience that the cutting down of the cost of food to the consumer below a paying price to the farmer, means nothing less than sawing off the limb on which both consumer and producer are sitting.

The consumer must be made to understand that unless he pays fair prices, the farmer can not and will not sow. And the farmer must be made to realize that unless he sows, the city consumer can not live to do his part for the national defense. We are all in the same boat, those who buy food and those who grow or raise it. If anyone scuttles it we shall all sink.

The nation needs food, needs it for our civilian population, for the neutral countries, for our soldiers, and for the soldiers of our Allies who daily are dying by the thousands fighting our battles. The experience of other nations indicates that to get food it may become necessary to guarantee to the producer a price high enough to repay him for his labor and expense, plus a reasonable profit. The next thing is to market it at the smallest possible advance over its cost on the farm. The third step is to conserve our food products, to eliminate over-eating, unintelligent eating, and all other forms of waste,

When there is too little food the nation must go hungry. When there is enough food but no efficient system of marketing it, again the nation goes hungry, while crops rot on the ground. Even when there is enough food and it is efficiently distributed, the nation may go hungry tomorrow if its people gorge and waste today.

From the standpoint of both the consumer and the farmer, the Government should not be without power to guarantee the producer that for his wheat and for his corn, for at least his non-perishable crops, he should be certain of paying prices. If the emergency demands it, this power should be exercised, in order to protect the consumer by insuring the production of food and the farmer by insuring a return for his investment and his labor.

But the Government must also eliminate those middlemen standing between the farmer and the consumer who corner food products and practice extortion. The Government is already doing everything possible to bring the producer and the consumer together for their mutual benefit. The Government does not propose, so far as the power within it lies, to permit one dollar to go to any man who fails to perform a definite social service.

No suggestion has ever been made to impose prices lower than the prices received by farmers for foodstuffs during the past year. Rather the reverse. If the Government had the power to fix a maximum price, it would use this power as a club, to be applied only in individual cases where it was clear that an individual or a corporation had cornered foodstuffs or was practicing extortion. After each particular abuse had been controlled by the exercise of this power, the incident would be closed. Any further exercise of such power would depend upon the appearance of another similar concrete condition. Such maximum price-fixing power would not hurt the farmer nor any one else except the disloyal manipulator of foodstuffs.

If the Executive has adequate power, it is believed that it will be able to keep the prices of food staples from being artificially raised by speculators and gamblers, without having resource to the additional power to establish maximum rates. In asking Congress to confer such power, the purpose was to use it only as a last resort.

In order to win this war the Government and the people—the producer, distributor, and consumer alike—must pull together. Any citizen or group of citizens who pulls in the wrong direction is pulling away from victory. The consumer should help to see to it that the farmer gets reasonable prices for his products. The farmer likewise should throw his influence into the scale and help the Government to protect the consumer from the extortion of unscrupulous and disloyal food speculators and food cornerers.

CARL VROOMAN,
Assistant Secretary of Agriculture.

THE HOUSEWIFE AND THE FISH PROBLEM

HENRY B. WARD

Special Investigator, United States Bureau of Fisheries, and Head of the Department of Zoölogy, University of Illinois

Universal emphasis is being laid today upon the injunction, *eliminate waste*, but in discussing the fish problem I would substitute for this the injunction, *eliminate prejudice*. Not that there is no waste, but that is a feature which concerns chiefly the fisherman and the fish-distributing agencies, whereas the aspects of the problem that appeal to the homemaker include only in a minor degree the question of food wasted.

There is indeed a fish problem and it concerns all but a small portion of our country. In those localities that are immediately adjacent to the ocean or to a few of the famous fish-producing streams of the eastern and western coasts, one finds a fairly regular consumption of fish food, though even here it is not so generous as it deserves to be when the quality of the food and its reasonable cost are properly weighed. But throughout the length and breadth of the land away from the narrow seashore zone it is only in isolated localities that much if any attention has been paid to this type of food. Most families plan for fish once a week or less frequently; if they do not find just what they want available, they are apt to pass it by, and meat is substituted. Thus for one cause or another the average fish consumption in the interior portion of the country falls far below that which obtains in the Old World, or that which should exist here when our extensive and splendid supply of fish food is taken into account.

This condition is partly one of indifference or carelessness, fostered by the fact that the limited demand for fish food has resulted in leaving the market undeveloped so that it is sometimes difficult to secure fish; but it is also in good part due to certain very definite prejudices that throughout the central section, at least, meet one frequently and are repeated with positiveness in every discussion on the topic. It is not my intention to speak of the distinctly absurd prejudices like that which attributes the transmission and spread of cancer to fish food; such a prejudice is purely imaginary, is not supported by a scintilla of scientific evidence, and is refuted in the clearest fashion by the statistical facts concerning the occurrence and frequency of cancer in various regions.

Nor would I lay too great an emphasis upon the rather easy criticism which is frequently heard that fish food is not to be obtained in good condition. This is an excuse rather than a prejudice, in most cases. It is true, of course, that food products in general are often not well cared for, like fruit and vegetables exposed on outside stands to the influence of wind and weather, or like meat laid out on counters subject to frequent visit and contamination by flies, conditions which are neither hygienic nor attractive. Under similar conditions, the best fish that the wholesaler can furnish will reach the consumer in a condition that is not calculated to command approval. But all in all, fish food is probably as well handled as any other type, and when reasonably cared for is thoroughly hygienic and also attractive to the consumer.

The first of the prejudices I have in mind is that fish should be purchased only on Friday. The work of the fisherman covers more than a single day in the week, and to be efficient from the economic standpoint and satisfactory for the public, the fish business should be encouraged by the distribution of the demand over a larger part of the time. If a meatless day is to be adopted, let it be Tuesday; but there is much to commend the slogan, "Every day a fish day."

Another prejudice is the view of the individual housekeeper that she must always have a given kind and size of fish. Sometimes it is possible to meet her wishes in this respect but there are other parts of the year in which it is impossible, for instance, to get small trout, and some other type should be substituted until the individual variety comes into the market again in the course of events. Certain fish are "in season" just as well as certain meats.

One of the most serious prejudices that limit the satisfactory development of fish-producing and distributing industries is based on the scanty knowledge of fish possessed by the average housewife. She has learned to know one or two sorts, and, failing to find those or ascertaining that at the particular moment the price of her favorite type of fish has gone up beyond what she expected, she refuses to consider anything else for the day at least and gives up fish food entirely. She has lost a splendid opportunity, for among our fish there are many sorts not known to her by name that furnish food that is as good as some of the types with which she is familiar, or that might even be considered better.

The Bureau of Fisheries has recently published a series of Economic Circulars for the purpose of educating the public on the value of various fish and the best methods for preparing each kind. One of these em-

phasizes the value of the burbot. This is a fresh-water fish and belongs to the cod family. It is indeed the only representative of that group which occurs outside of the sea. The flesh is firm, white, very palatable, and in continental Europe has long been regarded as a delicacy. Yet in this country the demand for the fish up to the present time is very low. It should be far more widely known and used, as it deserves in every way the praise bestowed upon it. As it is placed on the market skinned, dressed, and headless, there is practically no waste and the initial cost is low so that it merits especial consideration in these days of rising prices.

Another fish of unrecognized worth in the Mississippi basin is the bowfin, which rejoices in a score of other names in various localities. It is scientifically of great interest because of its isolated position, not being related to any other fish in the modern world. In the fresh condition its flesh has been condemned as soft and pasty; but smoked and salted according to the simple method devised at the Fairport (Iowa) Biological Station it acquires a rich flavor which leads even the most prejudiced to acclaim its merits. Incidentally one may note here that the preservation of fish by curing, salting, and smoking, which is almost a lost art in our country, should be generally encouraged, as it adds distinctly to the amount and variety of foods available at moderate prices.

The much abused carp is, after all, a fine fish when properly prepared for the table. In spite of the high esteem in which it is held abroad, that which is caught in Illinois is shipped mainly to New York because of the prejudice against it in local markets. In a bulletin giving the results of experiments on the fish in the Household Science Department of the University of Illinois, Goldthwaite says, "Properly cooked, carp is a well-flavored fish of good texture, and one which need not be shunned because of the dangerous forked bones."

There is every reason to encourage the more general use of the common fish of pond and river as they are easily obtained, the supply can in most places be readily increased through local activities, and both food value and quality are high. The common catfish has, for instance, a total food value of 1100 calories per pound, being thus actually slightly superior to meats except pork, though the calories due to protein are less than in meats and other fish.

Even among ocean fish there have been recent valuable additions to the list of available types. Perhaps the most famous example is the tile fish, which, once apparently exterminated by a supposed shift in the

Gulf Stream, has become reestablished on its old grounds within very recent years. It is a large deep-water fish that possesses excellent food qualities and will soon be in markets from the Atlantic coast as far west as the Mississippi at least.

Another new applicant for public favor comes from the deep waters of the Pacific. It is the sablefish, wrongly called the black cod by early settlers and fishermen. In truth its rich, oil-filled flesh contrasts strongly with the dry meat of the cod and demands very different preparation. Of the sablefish the Department of Home Economics at the University of Washington says, "It is suitable for the humblest home on account of its price, and for the millionaire's table from its fineness of texture and delicious flavor." It ships well and may be had fresh or frozen as far east as New York and New England. In this case as in others it is important to buy the fish still frozen and thaw it in cold water just before it is used. Housewives who adopt this method will find frozen fish really equal to the fresh product.

Among canned fish there has appeared a new product in the form of the grayfish which is now, after two years of experimental work, being widely distributed. It is meeting with great favor and promises to afford an abundant supply of fish food. Though used on the shores of the Mediterranean since ancient times, it has only recently come into notice here. It is marketed fresh in the coastal region and is to become available in smoked form this year. It is most excellent as well as very reasonable in price. This is the first of the unused types of fish which the Bureau of Fisheries tested and has been persuading the public to try. The success of the effort is shown in the fact that the pack of last year was exhausted before the new pack came on the market. The supply of these fish is very large and the increasing demands of the market can easily be met.

The utilization of these new fish should be advocated far and wide; it is not an experiment, as all of them have been used for years elsewhere and are rapidly growing in public favor here also. While prevailing high prices have opened the way for the favorable reception of such fish as can be had on more favorable terms, even if they bear strange names, their merit assures their position in public favor long after the present crisis has past.

THE TIN CAN

CARRIE ALBERTA LYFORD

Specialist in Home Economics, United States Bureau of Education

"Before men can fight they must be fed. How few people realize that the feeding of a great people, either in peace or war, is largely a metallurgical problem with which the steel industry is primarily concerned! Not only much of our harvest yields but also the major portion of our annual sea food must be packed and preserved in tinned cans. A "tin can" is really made of sheet steel covered over with a thin wash of tin, and no other metal known can be used as a substitute. In spite of the fact that a tinned can carries only a small weight of tin, so great is our canning industry that in 1914 we imported from overseas 52,919 tons of this metal, valued at about \$33,000,000. Tin is not found in paying quantities in the United States, and in 1914 only 157 tons were produced in Alaska. The principal world source is in the East Indies and the Malay States, and is controlled by Great Britain. Tin ore is also found in Bolivia and is at present being imported, and smelted in New Jersey, but thus far tin from this source is only a small factor in a great industry. As has been shown, the question of our tin supply is a most important factor in our food supply."

The foregoing statement is quoted from a paper presented before The Franklin Institute by Dr. Allerton S. Cushman, Director of The Institute of Industrial Research, Washington, D. C. Dr. Cushman has said further that the additional canning necessary during the war makes a greatly increased drain upon the supply of tin. For our domestic production 3.6 billion cans were required for food products in 1914. It is estimated that from six to seven billion cans will be required for the year 1917. It will be necessary to can food for an army of 1,000,000 men. The questions arise, Can a sufficient amount of tin be procured? Can unnecessary uses of tin be stopped? As unnecessary uses, the Institute of Industrial Research cites the use of tin for kerosene cans (chiefly exported), for tobacco, baking powder, and other dry powders. Once used, tin cans are of comparatively little value, though they may be heated in very large numbers to recover the solder and tin. The iron also will bring something for rough purposes.

At the recent conference in Washington of Government officials and tin can and tinplate manufacturers and representatives of the tinning

trade, instructions were given to prepare plants to exercise full and intensified capacity in order to meet the increased demand for tin cans to contain the food for the armies and the starving nations of Europe.

In view of the shortage of the tin supply and the great demand for shipments of canned goods to the allies and to the training camps at home and abroad, the housekeeper may help by observing the following rules:

First. Use vegetables and fruits freely while they are in season and abundant.

Second. Use glass jars to can all necessary surplus from the garden, or preserve by drying.

Third. Learn to use dried vegetables and fruit and to use them in a variety of ways.

Fourth. Increase the number of dishes in which winter vegetables are used and let them form a large part of the diet during the winter months. Winter vegetables that keep for months without canning may be prepared in appetizing form to give the needed variety.

Fifth. Do not demand those commercial goods in tin containers that can be perfectly well kept in containers of other materials.

Sixth. Do not demand soups or other liquid foods in cans if the material that enters into their composition can be obtained in more condensed form.

Seventh. Study the comparative cost and nutritive value of fresh meat and canned meat and use canned meat only when absolutely necessary.

Eighth. Make every effort to use new or little used fresh foods that are easily available and inexpensive. As far as possible substitute such foods for those canned foods that have been used in large quantities.

Fill every can full of food. The can supply warrants it; the law requires it; the National emergency demands it.—*National Cannery Association.*

MARMALADE AND JAM

LESS SUGAR AND SOME SALT

ISABEL ELY LORD

In April Dr. C. F. Langworthy called attention to an article in *Foods and Cookery* (an English magazine) on the saving in sugar effected in England by using salt for part of the sugar in the jam sent to the front. This was made a subject for experiment at the School of Household Arts, Pratt Institute, and the results tested by many people, and pronounced good.

Method. Six ounces of sugar and $\frac{1}{4}$ ounce of salt were used with 1 pound of fruit. The salt and sugar were added together, and the jam was made as usual.

This should not be eaten until five or six days after making, since it will take that time for the characteristic salt flavor to disappear.

The fruits used were strawberry, pineapple (with rhubarb and with apricot), orange and lemon. All were good, and there seems no reason to suppose that the method would not be equally successful with other fruits.

Cost. With sugar at nine cents a pound, this saves two cents a glass over the usual proportion of a pound of sugar to each pound of fruit. Where fruit costs little or nothing, this makes the jam very cheap.

Flavor. The jam is perhaps less rich, but it is very palatable.

Food value. The jam, of course, loses decidedly in food value when the sugar is lessened, but as it is eaten usually to give flavor rather than to furnish energy, there seems no disadvantage in this as long as those who eat it know of the substitution:

Brown sugar. The English account suggests using brown sugar, but this was not found advisable in the experiments. It gives a darker color to the jam, which is not attractive, and, with strawberry, pineapple, rhubarb, and apricot, it detracts from the flavor of the fruit. In orange marmalade it gave an over-sweet flavor.

CORN MEAL BREAD

MRS. F. L. STEVENS

University of Illinois

YEAST MIXTURE WITH MAGIC YEAST OR YEAST FOAM

2 cups water	2 tablespoonfuls flour
1 cake dry yeast	$\frac{1}{2}$ cup boiled mashed potatoes
2 tablespoonfuls sugar	$\frac{1}{4}$ teaspoonful salt

Soak yeast in 1 cup of water. Mix dry ingredients, add potatoes and the other cup of water. Add soaked yeast, beating mixture thoroughly. Let rise over night. The yeast will be ready in the morning.

BREAD

1 cup lukewarm (scalded) milk	1 cake dry yeast prepared according to above directions
2 tablespoonfuls sugar	Flour
3 tablespoonfuls butter or lard	1 cup corn meal cooked in
1 teaspoonful salt	2 cups water

Mix ingredients, adding yeast mixture and flour to make a thin batter. Beat thoroughly with a spoon or egg beater, finally adding the scalded corn meal, which has been thoroughly cooled. Add flour and knead to make a firm, elastic dough. Let rise until the mass has doubled its bulk. Shape into loaves. Let rise again until the loaves have doubled their bulk. Bake.

OUR PRIVILEGE AND OUR PATRIOTIC
DUTY IS TO CONSERVE

WHAT?

Food, Clothing, Health, Beauty, Higher Life.

WHEN?

Every day.

WHERE?

Everywhere.

WHY?

That life may be better worth the living.

—Adapted from Chicago Headquarters, Women's Committee,
Council of National Defense.

STUDENTS' CONTRIBUTIONS

MANUFACTURED SILK

IRENE BJORKLUND

University of Washington

It is only of late years that manufactured silk has come to be of more than theoretical importance. That it is now practical is shown by the fact that in 1912 the world's product was 8,000 tons, at a value of \$30,000,000.¹

Possessing a luster exceeding that of true silk, together with the ability to take dyes easily and beautifully and the all important qualification of cheapness, manufactured silk has only to prove its durability and adaptability. Durability, however, does not always mean today what it meant to the woman whose best, and often only, black silk dress was expected to last ten years or more. If hat braid of manufactured silk, for example, can do duty for two or three seasons, few indeed are the women who would ask more of it; very few as a matter of fact who would expect or desire as much. For whether we like it or not, the rapidly changing fashions have a very marked effect upon our standards of value. The insistent demand for cheap silk hosiery, for example, has forced the manufacturers constantly to reduce the weight of silk used until black stockings may be more than semi-transparent, and occasionally has caused fraudulent over-weighting with mineral salts, greatly reducing the wearing qualities of the silk.

As the possible thinness of silk stockings approached its limit, substitutes for silk were naturally sought and found. Two of these, highly mercerized cotton (most of the vegetable silk advertised), and artificial silk, are certainly a better purchase, at 50 cents a pair, than true silk at the same price. Manufactured silk hosiery bids fair to become a staple, but, with the exception of skirt and hat braid, it seems probable that the chief use of the fiber will be for knit goods novelties. Silk sweaters, for example, are so expensive if made of true silk that they are out of the question for the majority of people. Manufactured silk makes

¹ Fiber and Fabric—Dyeing of Artificial Silk, November 19, 1914.

them relatively cheap. Neckties, mufflers, and caps are some of the other novelties commonly made partly or wholly of this fiber.

The brilliant luster of manufactured silk is used to advantage when the silk is combined with other fibers. For upholstery, where a close even weave is not required, it is sometimes used alone, and very frequently in combination with jute, hemp, and other fibers. Viscose plush is made with a cotton back. Since it is so decorative, artificial silk is widely used for stripes or small figures in cotton and wool materials. Interesting effects are produced by cross dyeing, for viscose threads of various colors may be woven into the undyed wool or silk, which can be subsequently dyed without affecting the cellulose silk, that, like cotton, requires a mordant.

Another use for which manufactured silk promises to be valuable is for embroidery. The fiber is not pliable enough to be used for very fine work but where the design requires bold strokes with heavy silk, beautiful effects may be produced.

In order thoroughly to understand the possibilities and limitations of artificial silk as well as the marks that distinguish it, some knowledge of its source and methods of manufacture is necessary.

True silk is produced from two large glands extending along the greater part of the body of the silk worm, and terminating in two spinnerets at the head. As the liquid, which consists mainly of the protein fibroin, flows from these two glands, the streams are cemented together by a gummy substance called sericin. The silk solution passes out through the tiny openings or spinnerets and is coagulated upon contact with the air, thus forming a filament, the average diameter of which is 0.018 mm. How the liquid silk differs from the hardened filament is not known, for coagulation of the liquid is too rapid to allow examination.

The constitution of proteins being still unknown, fibroin cannot be synthesized, so the name artificial silk, in the sense that we speak of artificial indigo, is a misnomer. The best that can at present be done is to manufacture a silk-like filament. For this reason there have been many attempts to coin a name more characteristic of the new type of textile fiber, but, so far, none has been very successful.

The first problem confronting the manufacturer is the selection of raw material. This must be such that a fiber can be formed from it that will have the luster of true silk, will be fairly strong and durable, and will, above all, be cheap. Since fibroin is a protein and the physical and chemical properties of proteins are so similar, one would naturally

suppose these to be the best source of raw material, but this is not the case. Gelatine silks have been made but have never been a commercial possibility mainly because they have no textile strength when wet and only one-sixth that of true silk when dry. Casein silk has been the subject of much investigation, but, while interesting theoretically, even if a good silk were finally made, the cost of any animal fiber would probably be prohibitive since it must compete with the lustra-celluloses made from wood pulp.

Cellulose, in fact, is the basis of all of the commercially successful silks. Four important cellulose derivatives have been used: (1) the nitro-cellulose, (2) the acetate, (3) the cuprammonium, and (4) the viscose. Purified cotton waste is used for the first three, and wood pulp for viscose. Both cotton and wood have a characteristic cellular structure, while the silk fiber, on the other hand, is a structureless tube. It is therefore first of all necessary to destroy the structure of the raw material if the physical properties of silk are to be imitated. This is done by preparing a soluble cellulose derivative. In the case of the nitro-cellulose, the purified cotton is treated with nitric acid and a dehydrating agent (sulphuric acid), the composition of the nitrates formed being dependent upon the temperature, the time of contact, the concentrations of the acids and the relative amounts employed. A mixture of alcohol is used as the solvent. For the acetate silks chloroform or ethyl acetate and alcohol are the commonest solvents, the cellulose acetate being manufactured by various methods. The cuprammonium silks are obtained from a solution of cellulose in ammoniacal copper oxide, while the viscose silk depends on the formation of a cellulose sulpho-carbonate.

Great indeed are the mechanical difficulties surmounted by the manufacturer. The spinnerets of the silk worm are imitated by minute capillary tubes of glass or platinum. The orifices of these must be fairly uniform in size if a uniform product is to be obtained, yet they are sometimes not more than 0.08 mm. in diameter. They may be formed by heating glass tubes to redness and drawing out rapidly. These are standardized by measurements under the microscope and only those whose diameters fall within certain limits are used. The platinum tubes are said to be cut with very fine dies.

The solution must be perfectly homogeneous in order to pass through such minute tubes, and so repeated filtration is necessary. Coagulation of the filaments is the next process. In the case of the nitro-celluloses this is usually accomplished by rapid evaporation of a volatile solvent

such as ether and alcohol, but in other silks a coagulant is generally used. The coagulating bath consists of a solution in which the cellulose derivative is insoluble. Petroleum hydrocarbons are most often used for the acetate silks, ammonium sulphide for the viscose.

The silk solution enters the coagulating bath directly from the spinnerets, so that the surface is immediately hardened. The interior being still liquid, the filament may be drawn out until it is several times smaller than the orifice through which it has passed, a process greatly increasing its lustre. A number of filaments are then united together to form a single thread which is wound on spools. The rate at which the silk solution passes through the spinnerets is important, and is determined largely by the viscosity of the solution, the size of the spinnerets, and the pressure employed. One of the nitro-cellulose methods requires a pressure of 40–50 atmospheres when the orifices are 0.08 mm. in diameter, while the Glanzstoff (cuprammonium) makes use of only 1.5–2 atmospheres, but the spinnerets are 0.12 to 0.15 mm. in diameter. In general it may be said that the main factors determining the formation of a filament are the rate of passage through the spinnerets, the nature of the coagulant, and the tension to which the filament is subjected in the coagulating process.

With the nitro-cellulose silks, denitration is necessary, after the silk has been wound on the spools, in order to render it non-explosive. A bath of ammonium sulphide is commonly employed for the purpose. The chief disadvantages of this type of silk are: (1) cost because of the large amounts of ether and alcohol employed, (2) weakening of the fiber by water, and (3) danger in the manufacturing process because of its explosiveness. Cellulose zinc chloride filaments are also made. They are not strong enough for weaving, but are used for incandescent light mantles.

The acetate silks are made from cellulose acetates, which remain as esters in the finished product. For this reason, these silks are not readily affected by water, as is usually the case. They are also characterized by their non-inflammability, their resistance to the dye-stuffs, and their ability to incorporate within the fiber large quantities of softeners (organic substances of many types), which give them great pliability. They are the most costly of the artificial silks, and so are little used, though the cellulose acetates are very valuable industrially for insulating copper wire for electrical apparatus and for certain expensive lacquers. The cuprammonium silks superseded the nitro-cellulose because cheaper

and more satisfactory, but they, in turn, have been replaced by the viscose. Viscose is the cheapest of the artificial silks, and is practically the only kind manufactured in the United States.

Commercial viscose is not made from cotton but from wood pulp ground with solid sodium hydroxide until a finely divided crumb-like mass is obtained. The excess of moisture is then pressed out and the soda cellulose is allowed to lie for some time before being treated with carbon disulphide. The resulting mass is dissolved in water and filtered to remove any cellulose fibers. The spinning frame consists of a double series of small pumps that force the solution through platinum spinnerets pierced with very fine openings, the number of which varies according to the size of the thread desired, the average number being about 18 orifices per thread. Ammonium sulphate is used for a coagulant. The filaments are united into a single thread immediately after hardening, and are then wound on a turbine bobbin which collects them into skeins and gives the thread the right degree of twist. The yellow color is removed by bleaching powder or sodium hypochlorite. Viscose dyes very easily and beautifully in a lukewarm dyebath for cotton.

In reply to the practical questions: (1) How may we know it? (2) What are its limitations? (3) What may we expect of it? It may be said that its very high luster, the coarseness of the thread, its lack of pliability, its very low tensile strength, are usually sufficient to distinguish manufactured silk. Some of the coarser poorer qualities of silk such as that used for belting might be mistaken for it, but the threads are not nearly so easily broken; moreover threads of true silk when broken show very fine fibers which "fuzz up" at the ends. The best household test is burning. True silk, unweighted, burns easily with the characteristic odor of protein (such as burnt hair, for example), forming a bead-like mass at the ends; weighted may scarcely burn at all, while artificial silks, excepting the acetates, burn very rapidly as cotton does. If these tests prove inconclusive, Millon's reagent (mercury in nitric acid) may be used for light colored materials since all proteins and hence silks are turned red by it and the cellulose derivatives are unchanged.

The different kinds of artificial silks may be distinguished by microscopic tests and by concentrated sulphuric acid, but this is not important since viscose is used almost universally, at least in this country. Germany seems to be one of the foremost in this industry but the writer was unable to obtain any information regarding the methods employed.

It may be added that in case a revision of the tariff on a protective basis again occurs, a tariff on artificial silk will probably be included therein, presumably to prevent competition with Germany.

Regarding the limitations of the fiber, it may be said that the main objections to the use of manufactured silks have always been their low tensile strength compared with true silk, and the fact that they are much weakened by water.

The remarkable difference in tensile strength between true and manufactured silk is due not to lack of strength in the fiber itself, but to the lack of qualities necessary for spinning. Wool has little microscales that aid the spinning process as they tend to interlock; cotton has a natural twist that favors this process; and silk, while a structureless tube, has other qualities which make it spin easily. Manufactured silk has none of these; its use is limited, therefore, to coarse weaves, knit goods, and embroidery silks, which do not require a tightly twisted thread.

The fact that manufactured silk regains its strength when dry makes the loss of strength when wet of very much less importance. Obviously manufactured silk would not be suited for surgical or other scientific purposes where great strength and softness are required. Artificial silk of good quality will not, as formerly, disintegrate if left upon the tongue, but is naturally much more easily broken than true silk. A wool material having a viscose design was boiled out in the laboratory in a 5 per cent solution of potassium hydroxide, disintegrating the wool but leaving the viscose unchanged, thus showing that this type of artificial silk is unaffected by dilute alkalies at a boiling temperature, and consequently is uninjured by laundering.

By way of summary the following points may be noted:

1. Viscose is not a general substitute for silk as it does not possess its softness, its strength, or its fineness.
2. Its luster renders it excellent for decorative purposes, especially in combination with other fibers.
3. Viscose is pre-eminently fitted for knit goods and braids where its resistance to spinning is not especially important.
4. Viscose withstands laundering (even with free alkali), is cheap, is stronger than silk goods highly weighted with stannous chloride or other salts, and may on the whole be used fearlessly wherever its physical properties make it attractive to the purchaser.

EDITORIAL

Home Economics Conferences in Washington. On April 30, at the call of the Assistant Secretary of Agriculture, the editors or representatives of household and women's magazines met in conference at Washington to determine how their publications could best use their columns for help in the present crisis.

Among other things it was agreed that each month one article be furnished the magazines to be published "without the change of a comma." The article by Mr. Vrooman in this issue is the first of these. Not only in its promise of material, but in its contribution to mutual understanding the conference was worth while.

On June 2, Mr. Hoover called together in Washington a group of representative workers in home economics. After addressing them for a few moments he asked Dr. R. L. Wilbur, president of Leland Stanford Jr. University, and now acting as head of the Food Conservation Division of the Food Administration, to conduct the conference. Both morning and afternoon were spent in discussing the relation of Home Economics to Food Conservation, and in planning efficient methods of work for different localities, and conditions. Partly as a consequence of this conference the Home Economics Advisory Committee was appointed. As this number goes to press another conference of editors of household and women's magazines has been called by the Red Cross officials at which Red Cross needs and aims are to be presented, the organization explained, and coöperation of the publications asked.

THE JOURNAL OF HOME ECONOMICS has been represented at all of these conferences, and its cordial coöperation promised.

THE PLEDGE OF THE GENERAL FEDERATION OF WOMEN'S CLUBS

"In view of the pressing military necessity of conserving the food supply of the Nation, I hereby pledge myself to do my bit as follows:

"I will use only those amounts of food required for adequate nourishment. I will endeavor to control the waste in all kinds of materials in the household and to live simply.

"I will begin now."

ANNOUNCEMENT

The Ellen Richards Research Prize. The Naples Table Association for Promoting Laboratory Research by Women announces the offer of a research prize of \$1000 for the best thesis written by an American woman embodying new observations and new conclusions based on independent laboratory research in Biology (including Psychology), Chemistry, or Physics. Papers published before 1916 will not be considered and theses presented for a Ph.D. degree are not eligible. Theses offered in competition must be in the hands of the Chairman of the Committee on the Prize, Dr. Lilian Welsh, Goucher College, Baltimore, before February 25, 1918. Application blanks may be obtained from the secretary, Mrs. Ada Wing Mead, 823 Wayland Avenue, Providence, Rhode Island.

THE QUESTION BOX

Conducted by a committee of the Science Section of the American Home Economics Association. Chairman, Prof. Amy Louise Daniels, University of Wisconsin, Madison, Wis. Questions may be sent directly to Miss Daniels.

Question: Unfertilized eggs which have been incubated for varying lengths of time are usually thrown away or cooked and used for food for chicks. Is there any reason why these may not be used for human food?

Answer: Unfertilized, incubated eggs are often superior to many cold storage eggs. With one exception these may be used in any of the usual ways in which fresh eggs are served. During the incubation process the membrane which holds the white has become changed so that the white no longer holds together, therefore these eggs are not satisfactory for poaching. The flavor of the eggs incubated as long as seven days is not different from that of fresh eggs. Both sponge and angel cake, a sure test of good eggs, can be made from these.

Question: Is there any justification for the statement that salt added to vegetables during the process of cooking hardens the cellulose and so keeps the vegetables intact?

Answer: Chemically pure sodium chloride (table salt) has no effect on cellulose, nor in the process of cooking in dilute solutions has it any

appreciable hardening effect on the substance of which vegetables are composed. Most table salt, however, contains a considerable amount of calcium, and if a generous amount of this sodium chloride is added to certain vegetables, namely the legumes, in the process of cooking, the effect will be the same as if the vegetables were cooked in hard water. In fact, the Canner's Association have found it unwise to add salt to peas during the process of cooking, because the salt used contains enough calcium to harden the product.

Question: The reason usually given for the use of lactose, rather than some other form of sugar in infant feeding, is that lactose is less easily fermented, and therefore is better born by the average infant. What authority is there for this statement?

Answer: Lactose is less quickly absorbed from the alimentary tract than other disaccharides, and therefore offers greater opportunity for bacterial action and the formation of lactic acid. This lactic acid may prevent the development of putrefactive organisms which so frequently lead to digestive disturbances. When given in excess lactose is more likely to cause diarrhea than are other disaccharides. Many pediatricists believe that, although lactose is helpful under certain conditions, dextro-maltose preparations are better tolerated by the average infant.

References: Säuglingsernährung und Säuglings Stoffwechsel, II and III, p. 129, 1914.

Diseases of Nutrition and Infant Feeding. Morse and Talbot, p. 192, 1915.

The Influence of Lactose on the Metabolism of an Infant. Talbot and Hill. *Amer. Jour. Diseases of Children*, Vol. VIII, 1914, p. 218.

Question: Is there any authority for the statement sometimes made that milk is not so easily digested in the stomach of an adult as it is in the stomach of a child?

Answer: It is believed by a number of investigators that rennin and pepsin are the same enzyme, the difference in the chemical behavior of the enzyme being due to the difference in the medium in which it is acting. If this is so, you can see that the rennetic action of the adult cannot differ in any way from the rennetic action of the child, both depending upon the activity of pepsin.

An article by Bremmen, in the *Journal of American Medical Association*, Vol. LX, 1913, p. 575, shows that the action of the rennin (or pepsin) of the adult is not inefficient.

Question: What are the reasons why coffee is less injurious if used clear than if used with cream and sugar?

Answer: Only those individuals suffering from fat indigestion have difficulty in digesting coffee with cream and sugar. Here it is not so much the coffee but the fat of the cream that is causing the disturbance; and although it is true that tannin in both tea and coffee inhibit digestion in proportion to the amount present, the tannin might better act on the protein of the cream or milk rather than on the gastric secretion.

Question: Is there any authority for the Statement that crisp bacon is less digestible than that cooked until it is slightly brown but not crisp? Is there any benefit derived from pouring boiling water on bacon and then pan boiling it?

Answer: Under certain conditions, for example hypochlorhydria, bacon which is cooked until it is crisp and therefore contains less fat, would be more desirable than that cooked a shorter time, since fat delays the gastric secretion. On the other hand, crisp bacon contains less nutriment, since much of the fat is cooked out during the process of cooking. The general belief that super heated fat is unwholesome has not been born out by experiment.

The custom of pouring boiling water on bacon before pan boiling, has developed amongst those people who prefer bacon browned only slightly. In order to make sure that it is thoroughly cooked, the bacon is par-boiled first.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Domestic Architecture. By L. EUGENE ROBINSON, New York: The Macmillan Company, 1917, pp. 378. \$1.50. By mail of the Journal, \$1.64.

This book presents, in a well organized form, many facts of practical significance, which teachers of House Planning have been compelled to gather from many sources. The method of organizing the material is especially suited to high school classes. The chapters are divided into clearly indicated subtopics, which are summarized at the end of each chapter by sketch problems and a bibliography relating to their solution.

For use in college classes, as reference material, there is need of an addition to the book, in the form of a list of illustrations. The illustrations are a most valuable feature of the book. Through them the author demonstrates the influence of practical processes and conditions upon the principles of design.

The book is divided into two parts. Part one deals with the usual problems of House Planning in an unusually clear manner. Among the topics here included may be mentioned common Building Materials, Finish Building Materials, House Construction, Appliances, Heating and Ventilating, Lighting, Plumbing, and Cost of Dwellings. Part two is a practical guide for house design, including a Drafting-room Manual, Problems in Design, and a most excellent Glossary of Architectural Terms.

From the teacher's view point, this book is a most welcome contribution.

ETHELWYN MILLER.

University of Chicago.

Food for the Worker. The food values and cost of a series of menus and recipes for seven weeks. By FRANCES STERN and GERTRUDE T. SEITZ. Boston: Whitcomb and Barrows, 1917, pp. 131. 1 diagram. \$1.00. By mail of the Journal, \$1.08.

By what extraordinary combination of circumstances has it come about that we think of "food for the worker" as necessarily plain, questionably complete, and as demanding more or less scheming and planning to make it supply all the needs of the body? Surely such a diet would be better suited to the idler or the laggard who has little need of energy or of strength of body, and plenty of time in which to turn and twist the pattern of the perfect diet, which instinct designed in the rough and the expert in nutrition has perfected so as to "get it out," as we say in dressmaking, from available food materials. Under existing conditions, illogical, inexpedient, and unjust as they are, it is often the worker who must experiment most with the pattern, turning it now this way and now that, and to him this book, the product of broad sympathies and of wide practical experience, is sure to be of value. It could hardly be better described than by Dr. Mendel in the foreword:

"The more I have investigated the difficulties under present-day conditions of securing adequate nutrition at an average cost of twenty cents per day per person, for the families of small earning capacity, the more have I been impressed with the immediate helpfulness of such essays. It matters little whether these dietaries are acceptable in

their entirety. The contribution of 147 menus carefully planned, with tested recipes which are the outcome of the direct experience of a visiting housekeeper under conditions that prevail in a large American city, is a valuable effort in a somewhat novel direction. Only one who has actually attempted, with restricted funds, to purchase a variety of abundant, suitable, seasonable foods in a retail market can thoroughly appreciate the situation."

It might be added that those who, in the present crisis, are trying to plan meals so as to do away with all waste will be glad of the opportunity which this book offers to get the food value of cooked dishes as well as of separate food materials. The carefully prepared recipes given in connection with the food values are also helpful. Those who lay down rules for diet in terms of protein, fat, and other nutrients often fail to realize how difficult it is, for practical housekeepers to plan meals so that they will include popular dishes and at the same time have the right food value.

It was Mrs. Beeton, the famous English authority on household economy of two generations ago, who gave in her cook book directions for preparing a "soup for charitable purposes," the composition of which was doubtless determined by the author's estimate of the average gentlewoman's gifts to the poor. The nutritive value of the recipes in *Food for the Worker* is determined first by dietary standards and second by what the average unskilled laborer in a typical Ameri-

can city can pay on a pinch. That the result of the pinch must be an unfortunate cutting down of other items in the family budget is shown by the estimate on page 22. Here it is stated that the food recommended, plain as it is, would cost \$364 a year in quantities sufficient for the average family. This is 69 per cent of \$528, the income of a man who works at \$2 a day without being laid off more than eight weeks in the year. There would be left \$164 for rent and clothing and all the other necessities and decencies of life. The inclusion of this statement makes the book an argument for an adjustment between wages and cost of living as well as a practical guide to the economical selection and preparation of foods.

That adjustment is vitally necessary has long been recognized by all those who have taken pains to compare wages and food prices. The only stumbling block has been its practicability. Now many powerful and influential people, setting lightly aside all possibility of failure, have set forth seriously on a program of food control. If control is possible in times of war, it is possible in times of peace; if it is desirable for the development of the arts of war, it is even more desirable in the interest of the arts of peace. The practicability of control demonstrated, the only question is about the amount of adjustment necessary, and in determining this, such books as *Food for the Worker* will surely be helpful.

CAROLINE L. HUNT.

Washington, D. C.

PAMPHLETS RECEIVED

The following bulletins may be obtained free from the Division of Publications, United States Department of Agriculture, Washington, D. C.:

Drying Fruits and Vegetables in the Home. Farmer's Bulletin 841.

Home Canning by the One-Period Cold-Pack Method. By O. H. Benson. Farmers' Bulletin 839.

Home Canning of Fruits and Vegetables. By Mary E. Cresswell and Ola Powell. Farmers' Bulletin 853.

How to Select Foods. II. Cereal Foods. By Caroline L. Hunt and Helen W. Atwater. Farmers' Bulletin 817.

The following bulletins are issued by the publishers listed:

Forty Ways of Reducing Food Bills. By Winifred Stuart Gibbs. Extension Department, Mechanics Institute, Rochester, N. Y. 10 cents.

Conservation of Foods. The Stout Institute Bulletin, Menomonie, Wis.

Ten Lessons on Food Conservation. Lessons 1 to V, Food Administration, Washington, D. C.

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Estimates of a Living Wage for Female Workers. *Amer. Jour. Pub. Health*, 6 (1916), no. 3, p. 221.

The Removal of the Natural Impurities of Cotton Cloth by the Action of Bacteria. B. S. Levine, *Jour. Indus. and Engin. Chem.*, 8 (1916), no. 4, pp. 298-302.

The Rural School Lunch. Nellie W. Farnsworth, *St. Paul: Webb Publishing Company*, 1916, pp. 42, figs. 12.

Schoolhouse Meeting Discussion of How to Feed the Family for Health and Efficiency. Jessie P. Rich, *Bul. Univ. Tex.*, no. 68 (1915), pp. 18, figs. 5.

NEWS FROM THE FIELD

A Meeting of the Home Economics Extension Workers of the Western States was held at Logan, Utah, May 2, 3, 4. There was an excellent program, with helpful demonstrations, and valuable County Project reports. Nine out of the eleven Western States were represented by the State Leaders in Home Economics. The Extension Directors of Washington, Idaho, Wyoming, and Utah were also in attendance, while the States Relations Service was represented by Miss Florence E. Ward in charge of women's work, and Mr. C. A. Clinton, Assistant Chief, acting in place of Dr. True and Mr. C. B. Smith who were unable to be present on account of the war. It was voted unanimously to make the meeting an annual event.

Sanitary Commission to Russia. Dr. Henry Sherman a member of the Council of the American Home Economics Association, and one to whom not only as individuals but as an association we are greatly indebted, is a member of the Red Cross Sanitary Commission to Russia. Dr. Billings of Chicago is in charge of the Commission, and Dr. C. E. A. Winslow of Yale and Dr. George Whipple of Harvard are also members.

The object of the expedition is to offer American aid in caring for Russia's sick and wounded soldiers, in furnishing medical supplies, and in helping her sanitary officers. Much of the money contributed for the Red Cross fund will be spent abroad, and in order that it may be well spent commissions of experts will be sent in advance to various countries to advise as to its disposition. The expenses of the Commission to Russia are to be paid by a wealthy New York business man.

HOME ECONOMICS WORKERS IN WASHINGTON, D. C.

As the result of a Home Economics Conference called by Mr. Hoover in May, the following were appointed as a permanent Advisory Committee to work under Dr. R. L. Wilbur, President of Leland Stanford University, whom Mr. Hoover has appointed as head of the Food Conservation Division of the Food Administration: Miss Abby L. Marlatt, Chairman; Miss Josephine T. Berry, Dr. Alice Boughton, Mrs. Henrietta Calvin, Dr. C. F. Langworthy, Miss Isabel Ely Lord, Dr. Alonzo E. Taylor.

Advisory Members: Miss Catharine Mac Kay, Miss Martha Van Renesselaer, Miss Florence Ward.

Mrs. Alice P. Norton, Editor of the JOURNAL OF HOME ECONOMICS, is acting as Editorial Secretary for Home Economics in the office of the Food Conservation Section of the Food Administration. She was called to Washington by Mr. Hoover on July 18, and her services have been volunteered for a short time by the JOURNAL Board. She will carry on her work on the JOURNAL in addition to the new work.

Miss Abby Marlatt is acting for the summer as Director of the Home Economics Section, Division of Food Conservation of the Food Administration. Her work includes the visiting, for the Food Administration, of publicity material dealing with food; the preparation of articles and other publicity material; and the answering of questions that have been received from all over the country in regard to food conservation. She assisted in preparing the Ten Lessons on Food Conservation that have been sent out to the summer normal schools,

Miss Isabel Ely Lord, a member of the JOURNAL Board, spent three weeks of July organizing a working library for the use of the Food Conservation Section of the Food Administration.

Miss Alice Boughton who took her doctor's degree at Columbia University in June, is acting as head of the Elementary and Secondary Schools Department of the Food Conservation Section of the Food Administration.

Miss Alice Ravenhill has been made Professor of Household Economics at the State Agricultural College, Logan, Utah.

Dr. Andrews is working for the summer in the Office of Home Economics, United States Department of Agriculture, as a Specialist in Household Thrift.

Miss Emma Winslow is temporarily assisting in assembling new material for the Woman's Section of the Office of Extension Work North and West, States Relations Service. Part of the time she will be in the field, making observations of city organization work to be reported to the Extension Office.

Miss Mary Thurston, a graduate of Teachers College, who has been a community worker in Atlanta, Ga., is now acting as Home Demonstration Agent for the District of Columbia. Miss Thurston is the first person to be appointed for urban extension work. This work is under the direction of Miss Mary E. Cresswell, Office of Extension Work in the South, and Miss Florence E. Ward, Office of Extension Work North and West.

Notes. The Wisconsin Legislature has just enacted a law authorizing The Stout Institute authorities to establish four year courses for the preparation of teachers of the Household and Industrial Arts and to grant a B.S. Degree upon the completion of such courses. The bill carried an appropriation for additional laboratories and equipment for the new courses and for additional teachers.

The four year courses will be offered at the beginning of the school year in September.

Miss Helen M. Norris, who graduated in 1915 from the Mary Hemenway school of Household Arts of Framingham, Mass., State Normal School, has been appointed State leader of Boys' and Girls' Canning and Home Economics Clubs in Massachusetts, and has already begun her work.

Miss Jenny H. Snow, head of the Department of Home Economics, Chicago Normal College, and for some years Instructor in the School of Education, University of Chicago, has been appointed Supervisor of Household Arts in the Chicago Schools. This is one of the most important home economics positions in the country, and offers today especial opportunity for service.

Miss Francis Swain of Indiana University, is to succeed Miss Snow at the Chicago Normal College.

The experiments on jams and marmalade reported in the article on page 375 were conducted by Miss Dorothy Russell of the Normal Household Science Class at Pratt Institute, and used as the subject of her graduation thesis.

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THE SCOPE OF HOME ECONOMICS AND ITS SUBJECT MATTER IN UNIVERSITIES AND COLLEGES¹

ALICE RAVENHILL

Professor of Home Economics, Utah State Agricultural College

The words which form the closing paragraph of the Introduction to the Syllabus, prepared for the American Home Economics Association by eight leaders in the subject, stimulate my sense of obligation to submit for your consideration certain opinions which might appear un-mindful of the skill and knowledge of which this Syllabus is the product, were it not for the words I now quote.

"Suggestions and criticisms from all who are interested in any phase of the subject (i.e., of home economics) are invited, in order that the Association may have the benefit of the knowledge and experience of many persons to aid it in further consideration of this matter."

Since the scope of home economics, as detailed in this Syllabus, demands sixty closely printed pages, additional elaboration would appear unwise, and it is with no idea of further complicating an already complex subject that I present the following comments and suggestions. My object is rather to examine our own utilization of the comprehensive contents of this exhaustive Syllabus and to inquire:

1. Do the courses, presumably modelled upon it, meet the needs of the civilized world of today in respect to the preservation of health and the right conduct of family and institutional life; and
2. If, as public health statistics of this country show, the mass of theoretical knowledge now available on these subjects, well tested knowl-

¹ Presented at the meeting of the American Home Economics Association, held in connection with the N. E. A., Portland, Ore., July 10, 1917.

edge too, is not being utilized in the domestic life of the nation to the extent reasonably to be anticipated, are the reasons to be sought in (a) an imperfect estimate on the part of instructors of the relative values of the various parts of the whole subject of home economics; or, in (b) some failure in the accepted methods of its presentation; such as exaggerated classification of details or hard and fast subdivisions, without sufficient coincident or subsequent correlations; or, in (c) the omission on the part of home economics graduates to assume a sufficiently influential position in social and civic life; so that they fail to diffuse by example and standards the tenets they profess.

At the very moment I present to you this paper I am encouraged by the appearance in the July number of the JOURNAL OF HOME ECONOMICS of the report of most valuable inquiry along the same lines by Miss Elizabeth C. Jenkins of New Bedford Industrial School, Mass., which shows that the same thought is active on the following points in the East and in the West.

It is never amiss to audit at intervals the work accomplished in any field; there is no reason, therefore, to apologize for an inquiry into the results which should have been attained after forty years of widespread teaching in home economics. These should surely include the reformation of many insanitary habits; the revision of numerous unsound conventions; the prevention of a mass of preventable disease; a marked diminution in the national death rate at all ages; and a perceptible upward trend in the standards of general health and conduct. The family life of the people should be stronger; and home conditions should be well adjusted to the possibilities and demands of modern civilization, with its multiple opportunities for improvement.

The gauge by which to test such results is found in the Vital Statistics, published by the health authorities at Washington and in the different states; in the returns of prisons, industrial schools, hospitals, Commissions on Charities and Corrections, and other official and philanthropic bodies. It appears to me that the results of even a limited application of this test will unquestionably incite us to further efforts. Children are found, for instance, to be suffering as seriously from deficient sleep and faulty training as from the more immediate obviously defective food—a fact which certainly suggests incompleteness in our course of study. Most girls are still carried away by every passing wind of foolish fashion, to the lasting detriment of their own health and of those for whose lives they will presently become responsible. Social excitements in-

creasingly obscure the claims of home duties and take the savour out of quiet family intercourse. Young folks still marry with no preparation for the vast responsibilities they assume. Preparation for parenthood, training in or for motherhood, are rarely even considered. Adult life is still so poorly adjusted to conditions that the world is annually and prematurely robbed of its most valuable assets in human experience, for the death rate between 35 and 50 is growing, not diminishing. Is it unreasonable to expect that the thousands of home economics students who have graduated during these years should have stemmed more effectively this unsatisfactory tide in the affairs of men?

I do not forget that multiple factors are at work in the world effort to promote human progress, of which home economics is only one; but, surely, it should rank among the most important; for it is concerned in a peculiarly intimate way with the control and conduct of individual lives from their conception to their close. Its object is the inculcation of right methods and practice throughout the earthly career of each unit of the world's population. Its aim is to release mankind from bondage to unnecessary physical, moral, and mental disabilities, and to set human nature free to realize its full inherent powers. Truly the Committee was correct when it wrote in the Introduction from which I have already quoted that "Home economics is not one subject, but a complex." As a matter of fact, it is also a complex within a complex. That larger, more comprehensive complex, hygiene, includes home economics among its numerous contributory subjects; and it is, in my opinion, because this important fact has been overlooked, that our subject has in part failed to exert its full share of reformatory influence. Hygiene,—the conservation and maintenance of health,—is to me the lens through which we should focus all learning upon the advancement of life. Chemistry, physics, mechanics, biology, physiology, architecture, music, art, history, geography, literature, and, of course, the wide range, past and present, of definitely household crafts,—all find their place within this intricate whole of hygiene. But I have the impression that too large a percentage of home economics students fail to grasp that their primary object is the promotion of health, physical, mental, and moral; and that instead their chief end is rather the production of more economical, yet equally attractive, food, clothing, and shelter than hitherto. That the resultant conditions should be incidentally more healthful they, of course, admit, but the economic and artistic aspects of the students' work are liable to

veil their actual relationship to the great object of progressive human development. To obviate this tendency is not so much a question of the extension of time in college courses, but, rather, of a judicious readjustment of the relative values assigned to their subject matter. Lord Haldane has defined education as "the power to take a broad view of things." These young people come to us to gain power to take this broad view; let us be sure we are not giving a stone where they ask for bread.

A study of college catalogues shows the habitual arrangement of subject matter into the three main sub-divisions of food, clothing, and shelter, associated with the study of their underlying principles. These three sub-divisions are of undeniable importance to the right conduct of human life; each is closely linked to the other through mutual relations to the whole; but this latter fact is liable to be obscured by the general method of emphasized subdivision, even to the point of teaching details in entirely separate departments. Some courses include a fourth sub-division, that of household administration, to which usually less prominence is assigned, though actually it contains the kernel of the whole course; for it treats of the members of the family group; their training, duty, and obligations; their standards, and ideals; and the interdependence of these with their neighbors and their nation; though, so far, the full scope of application to be gained through instruction on maternity and child rearing, and on personal and public hygiene is not usually indicated.

To illustrate my point:—Compare the amount of subject matter offered in these conventional subdivisions in the Syllabus of Home Economics from which I have already quoted. Sixteen pages are required for the subject of Food; Clothing absorbs fourteen; Shelter demands twenty-three for its comprehensive material; but Household and Institutional Management barely fill six pages. It reminds me of the reason why all early manuals of physiology consisted chiefly of anatomy; because, before the day of high power microscopes and the consequent development of biology, the skeleton and ligaments were more accessible for minute study than were the soft tissues (the muscles, nerves, and organs), upon which depend the functions of the body, which constitute the actual subject matter of physiology. Similarly half a century ago, in the beginning of the study of home economics, comparatively little was known of the development through growth of the human body; of the intimate connection between mind and body; of our

ability to improve the quality of the race; of the far-reaching influences of inherited tendencies or of the dire consequences of congenital disease. The multiplicity of the factors in nutrition was only dimly perceived; physiology and hygiene were attractively simple, in theory at any rate.

It is not a reproach that the values first assigned to parts of so comprehensive and important a subject should call for readjustment and revision in the light of knowledge acquired during the most progressive half century in the world's history. Reproach could only exist were these needs now ignored. This customary subdivision has grown, no doubt, in response to the pressure of time and of increasing subject matter; but to what degree does this method of presentation militate against the object in view? Does it permit of the desirably intimate association in the application made from each subdivision to the individual needs of the members of the family group; does it draw attention to their *combined* influences on growth, on nutrition, on mental, physical, and economic stability, or to the social relations of the household? Does the conventional method of instruction on food and diet, for instance, incite to close coördination with other important factors in human efficiency, such as sleep, personal cleanliness, posture, temperament, form and conditions of family occupations, proportions of exercise and recreation? Much of this and other relevant matter is actually omitted today from many college courses in home economics. It is believed to receive some attention in the physical training and other departments; but very rarely is there the close collaboration between the departments which is essential, if true relative values are to be perceived or immediate application to her life by the student is to be the result.

To pass on to another criticism of a prevalent custom. If, as is the case, only a certain number of months or years can be given to learning the right conduct of life, specialization, much more any attempt at so-called research, must be relegated to post-graduate university students. College students must not be tempted to premature specialization, but must be encouraged to devote all their precious time to the acquirement of an all-around working knowledge of the subjects grouped as home economics; and those responsible for the courses must insure that these are carefully set in their correct perspective. Much more attention than hitherto must also be given to evidence of personal application of their knowledge by the students as tested by improved health, intelligent clothing, well regulated habits in the care of physical

needs, and strict habitual practice of the theories upon which life should be based.

I do not here suggest a purely "technical" as distinguished from a cultural college course; there is no more profound believer than myself in the necessity of affording every opportunity for individual practical study in the library, as in the laboratory and workshop. The reasons, as far as they are known, of the practice which is preached, must be perceived and pursued.

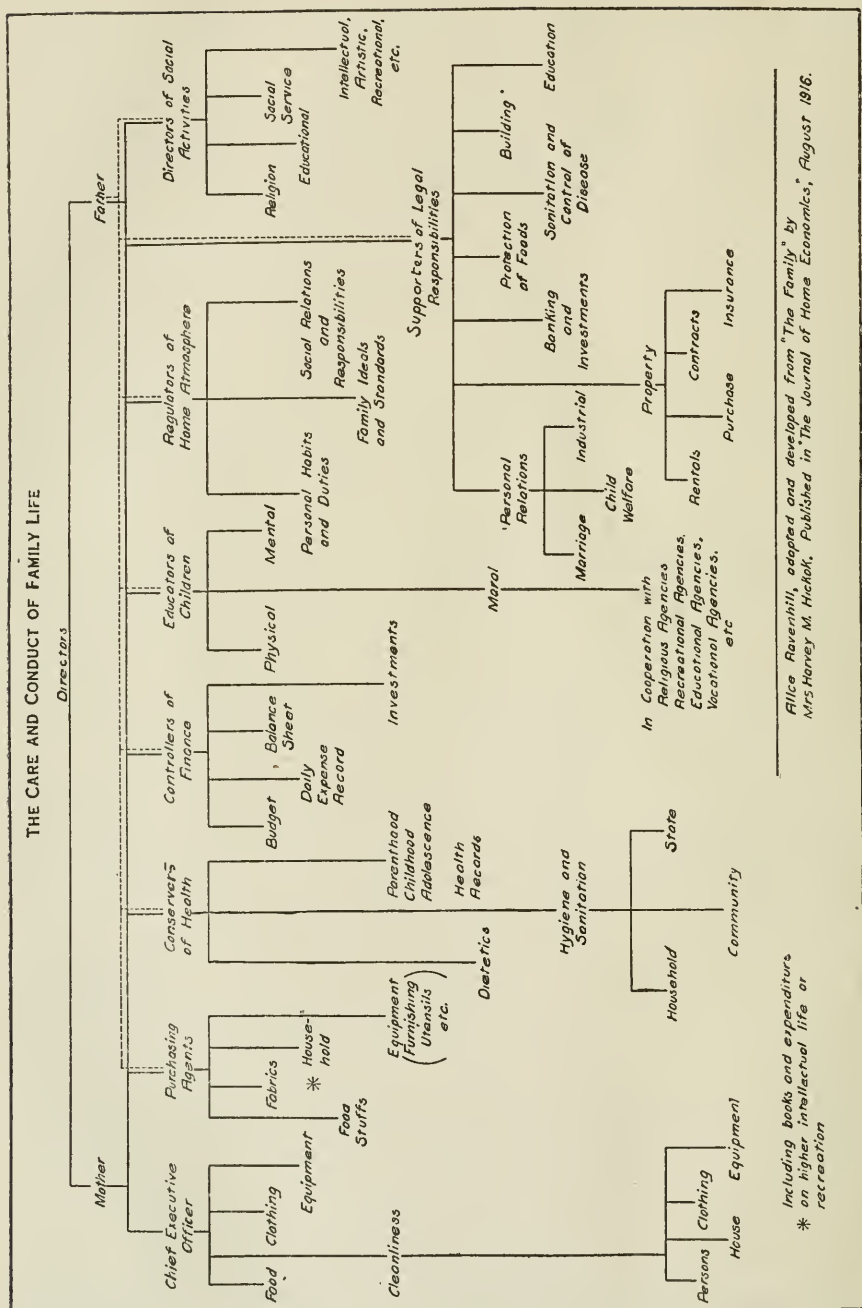
But I am sure that the methods, whether in library, laboratory or class room, must be reconsidered to the degree that fewer hours shall be spent in future college courses in the actual preparation of food or in the mere setting of stitches; that no attempt at what is usually mis-called "research" shall be permissible except for post-graduate students; that standards of attainment shall no longer be estimated by "hours," which surely indicate not the quality of work, but only its quantity; but that personal hygienic practice, the responsibilities of parenthood, the physical as well as the psychological development of children, the social and civic relations of the home, must all receive more definite, more extended and more suitably coördinated treatment than is at present the rule; and that the part played by the husband and father in family welfare must be more accentuated. It is a long time ago since Xenophon pointed out that men and women live in reciprocal dependence; only through closer coöperation of both parents can our goal be attained. The world admits that home influence is the earliest and most permanent element in the formation of character as well as in the protection of health; it must now advance a step further and recognize that this responsible influence is based upon certain fundamental principles which must be studied and applied equally by men and women.

I have illustrated what is in my mind in the Outline Scheme I have prepared for your criticism on "The Care and Conduct of Family Life." It is designed in the first place to indicate the wide range of duties and responsibilities briefly summed up in the word domestic, and to bring out the necessary realization of the importance of home standards to the community with which contacts are formed at so many and such varied points. In the second place, it draws attention to the "reciprocal relation" of the two parents in the family circle; it makes obvious the indispensable coöperation of the father and mother, if the duties of parenthood, as well as of householder and housekeeper are to be fulfilled.

The eight subdivisions under which their responsibilities are grouped are naturally arbitrary only, and susceptible of much rearrangement or modification. They were selected to suggest the diversity of obligations usually overlooked. The title of "Chief Executive Officer" is assigned to the mother for three reasons: to suggest her highly important position; to hint at the too often neglected division of labor in a family, which she should organize; and to draw attention to the fact that a woman must be trained, not only to perform these duties, but to direct their performance on a larger scale by others. The life interests carried on in the home, and the care called for by this life at its various stages of development, are purposely assigned prominence. The object of all household economics teaching should be the better understanding and maintenance of human life; this must be the thread on which all the pearls of study are strung. The partnership of man and woman in the home; the importance and far reaching influence of family standards and practice; the removal of the sore reproach that homes are far from being "shelters" for their child occupants; the relation of selves to society; emphasis upon the moral and economic aspects of "being well born," well tended, well trained, well recreated, well exercised, in home life; all these factors in human welfare and many more should be perceived by a study of this outline. They are vital elements, inadequately emphasized, insufficiently coördinated, in most of our courses.

Criticism is invited, urged, in the hope that important readjustments may cautiously be made, and rightly tentative efforts be encouraged; and an incentive given to weigh more accurately, than has been, perhaps, hitherto possible, the relative values of the scientific and artistic studies which rightly underlie home economics courses.

I should place such an outline in the hands of every freshman and take it as the text of a lecture course during the first year, showing, among other things, that the object of all college life is to increase opportunities for noble living. Do you remember Ruskin's words to the effect that knowledge itself is of little moment unless it result in the exercise in daily life of those virtues which lead to character building? The direct bearing upon the details of family life of all the selected studies in a home economics course would be thereby emphasized, while the fact would also be brought forward that, though the individual can become an expert in only two or three of the household arts, this is no barrier to the acquirement of an intelligent, working knowledge of the others, based upon a framework of fundamental principles. This desirable



Including books and expenditures
* on higher intellectual life or recreation

broad outlook must be cultivated; interest in life as a whole must be intensified if efficiency is to be increased.

No desire to minimize the time devoted to disciplinary training in essential details exists in my mind, rather I aim to direct attention to the existing risk of neglecting the synthetic by exaggerated devotion to the analytic. Sir Oliver Lodge cautioned us four years ago against the modern tendency to over emphasize the "atomic character of everything," and a similar note of warning is uttered in a suggestive little book recently published called "Permanent Values in Education" by Kenneth Richmond. "We teach facts" he writes, "and we teach many and diverse ideas about the facts, but without the unity that comes of tracing their relation to one another." On a later page Richmond defines the synthetic method of teaching as "the orderly building together of relations," that, he says is the way of reality, yet "reality is the goal which we have chiefly failed to seek" and therefore to attain.

It appears to me that some such coördinating course should find a place in each year of a student's college life. This, I think, should always be given in the Department of Home Economics, even though it might appear as if the duty could be handed over to the Department of Sociology, for instance, or to that of Economics or History. Place could, I believe, be found for this without any additional demands on time, were students in the first instance better trained how to learn; were printed outlines provided to replace useless labor in writing out notes, and were the manipulation of food stuffs and the needle organized, not by the number of hours spent in these arts, but by the standard attained; that is to say, more intensive and intelligent work must supersede existing leakages of time and energy.²

In the second place, much closer coördination must be cultivated between the divisions of our Home Economics Departments than is usually found. The misconception is common among students that there is almost opposition, at least a broad line of demarkation, between what is described as household science and household art. How can there be opposition or pronounced division between the fundamentals of a subject, its basis, that is, its science, and their utilization and application in suitable form, which is its art. "All art in things of use," writes Mr. Clutton Brock, in his exquisite essay on the "Relation of Art to Science," "arises naturally out of applied science and is the result

² See pages 2-5, Outline of an Elementary Course in Microbiology, by Jean Broadhurst. Published by Teachers College, New York City.

of its success." "We have so specialized art and science," he continues, "that we conceive of art as a mere ornament and luxury of life, and that science can be nothing but useful. We should think of art as an emphasis on the beauty that comes of successfully applied science. Natural beauty is the result of the expression of function, the product of both science and of art. . . . Divorce art from science and function, and beauty is apt to be lost. . . . When objects are designed as well as they can be for their purpose and made as well as they can be made" then science, art, and craft have their perfect work in the result of their combined labors. Do we, therefore, promote the end in view by over-emphasized differentiation?

Specialization is necessary for the expert, such as the college and university teacher, but prejudicial, I believe, to the student, whose goal is family and institutional management. The obvious tendency of this method is to exaggerate a non-existent distinction between the so-called science of foods and the arts of clothing or of shelter and thus to militate against the real object of that study, the uplift of humanity, by a judicious combination of these levers. Cooking is surely an art based on the sciences of chemistry, physics, biology, and bacteriology; the architect engaged in the construction of a healthful house must have received preliminary scientific training; the research of the chemist is almost as essential as is the design of the artist in the production today of some beautiful colored textile fabric.

Again I ask, might not a revision and rearrangement of some of our subject matter promote more rapidly and effectively the end we all have in view? Another suggestion offered is that those in charge of these courses should lose no opportunity to develop in themselves a higher standard in the broad cultural and historical aspects of the subject matter of hygiene and home economics. This will foster that sense of perspective, that perception of the relation of the parts to the whole, which maintains balance and adds dignity and responsibility to the course. Students who are under the personal influence of a teacher who believes that human experience embodied in history, philosophy, and literature, as well as in the most recent pronouncement of the sciences, is a powerful solvent of the domestic problems of the twentieth century; who are in constant contact with one who exemplifies by her open and alert mind that knowledge can and must be ceaselessly increased if practical achievement is to crown study, will be incited, unconsciously but constantly, to pursue true culture, which, just because it takes them

into wide fields of knowledge, outside their own craft, enhances to an amazing degree their own realization of its social and national relations. I shall be accused of advocating superficiality; but to my mind there is a great gulf fixed between the superficial and the cultural; the one is slight shallowness; the other, though also slight, has improvement as its object and cultivation as its motive. The range of human knowledge is too immense to permit of intimate study of even a tenth of its extent; but the man and woman who know something of the evolutionary and historical antecedents of their special work in the world, are, in the majority of cases, the best and most effective workers; and "a man," writes Ruskin, "is only educated if he is happy, busy, beneficial, and effective in the world."

It is on this account that I view with anxiety the tendency to substitute a text book for a lecture, as a means of acquainting students with parts of their subjects. I know that the idea is to relieve the instructor and to benefit the student by transferring the mental effort demanded from the one to the other. This is quite good up to a point; growth only comes by effort—a lesson which cannot be too soon inculcated. But I fail to see just cause why the end cannot be gained by a less limiting means; the very best text-book in the world is unable to embrace all the aspects of its subject. So rapid is the increase of information today, that text books get quickly behind hand; inevitably they cannot be adapted to the varied forms of immaturity present among a group of students; indeed I agree with Miss Jean Broadhurst, "text books are advantageous for cramming, but, . . . it is far from desirable that any student should confine her reading to any text book . . . a text book by a lecturer is too much like his lectures; students gain much more by having the matter presented in another way in their reading. . . . variations (by the lecturer) are likely to be those of method, items of personal experience or difference in application and in point of view, all of which add greatly to student interest," and may I add to the culture of a class.

I can refer all too briefly to the fourth reason I offered as likely to account for the slow permeation of public practice by the teachings of home economics, namely, the omission on the part of graduates to assume a sufficiently influential position in social and civic life, so that they fail to diffuse by example and standard the tenets they profess. Without arrogating to myself authority to pass judgment upon many earnest students, I do nevertheless feel that they are too retiring, too

much absorbed in the demands of their work, along whatever line pursued, to take the authoritative and prominent part they are entitled to play in life outside their universities, colleges, or institutions. Want of time and over-taxed energies are the obvious reasons for this in the majority of cases; to which rule there are, as we are all proudly aware, certain brilliant exceptions. But the very fact that the exceptions are so rare points to the foundation for my criticism.

Our Home Economics Association must be recognised as a force working along scientific, economic, and civic lines for the public welfare; our graduates must be bolder missionaries, more emphatic preachers, more widely recognised leaders, more utilized as courts of appeal on matters of daily practice for the well being of the community, more obvious examples of personal conformity to the principles they stress to their students. There is such a thing as confusing misplaced diffidence with legitimate humility; a deprecatory, retiring attitude is not the best advertisement of a great cause. It is as essential to express firm faith in audible accents as it is to show it by works. "God fulfils Himself in many ways." Let us also remember that, when emulating the highest example in our determination to utilize our knowledge for the benefit of mankind, "there is no rest for those who elect to serve under the banner of progress. They must ever march onward and extend their field of operation."

THE RELATION OF HOME ECONOMICS EDUCATION TO
SOCIAL HYGIENE¹

JAMES H. FOSTER

Assistant Secretary, American Social Hygiene Association, New York City

The social hygiene movement is, naturally enough, better understood as it grows and gains force, but even yet the question comes up again and again—What is social hygiene? What are its purposes and its methods? A few years ago when the American Social Hygiene Association was organized its articles of incorporation contained this statement, formulated by Dr. Charles W. Eliot:

The purposes of this Association shall be to acquire and diffuse knowledge of the established principles and practices and of any new methods which promote, or give assurance of promoting, social health; to advocate the highest standards of private and public morality; to suppress commercialized vice; to organize the defense of the community by every available means, educational, sanitary, or legislative, against the diseases of vice; to conduct, on request, inquiries into the present condition of prostitution and the venereal diseases in American towns and cities; and to secure mutual acquaintance and sympathy and coöperation among the local societies for these or similar purposes.

This statement draws together the several lines of attack which had been followed for many years by those who realized the menace to our institutions which lies in the evils with which social hygiene seeks to cope. It includes in essence the educational, medical, legal, social, and moral attacks upon the social hygiene problem which have gained so much support from public opinion during the past few years. But it still leaves social hygiene as a large and generalized group of activities rather than a well-defined concept.

More recently Dr. Eliot again wrote of social hygiene as directed "to the promotion and guidance of sex education, the establishment of the single standard of morality, and the suppression of prostitution and its associated evils—venereal disease, mental and moral degeneracy, and economic waste." Dr. Snow showed some of the implications of such activities when he pointed out that: "It may now be said that social hygiene is essentially a constructive movement for the promotion of all those conditions of living, environment, and personal conduct

¹ Presented at the Ninth Annual Meeting of the American Home Economics Association, Ithaca, N. Y., 1916.

which will best protect the family as an institution and secure a rational sex life for the individuals of each generation."

Social hygiene thus relates itself broadly and vitally to home and community life. Its function as a protector of family and home brings it close to home economics education, at least in its broader sense as I conceive the purposes and ends of such education. If home economics were purely utilitarian, one might look to the economic side of social hygiene. But if it is, as I believe, shot through with idealism, and looks beyond the ways and means of food and shelter, the broad field of education for sex life is open for our consideration.

The primary concern of social hygiene educational effort is to teach the individual to understand the facts of sex and reproduction as they are presented to him by his environment or by his own physical and mental experiences, and to make such knowledge an effective guide for his thoughts and acts in such relations.

This involves not only the physiology and anatomy and something of the psychology of sex, but also the laws of heredity, or what is popularly called "eugenics," the main facts of venereal diseases, and such related knowledge as every mature person should have. The problem is to present effectively this body of information as it is needed by the individual as he grows from infancy to maturity, so that at each stage he may have only that information which he needs in dealing with his experiences, and yet may have it before he encounters any particular problem.

Upon this basis, I venture to outline the progressive need for sex knowledge as the child grows to maturity:

The boy is born with the hereditary characteristics and possibilities transmitted to him by his parents. He cannot choose these parents nor can he control the kind of care and training they may give him. Until birth he is entirely dependent on the nourishment and protection from injury and disease which the body of his mother can afford. After birth for a year or more he is what his parents and others make of him. After that he is still largely the product of parental care for many years, but is increasingly acquiring knowledge and conducting experiments in governing and providing for himself.

When he arrives at the age of fourteen or thereabouts he finds himself being made over, and extensive additions and alterations appear without his understanding or consent.

All these are but secondary changes in the transition of the boy to man-

hood. Even more profound changes are occurring in those structures and tissues of the body especially devoted to the functions of sex. The boy finds himself the victim of strange thoughts and emotions which he does not understand, and physiological activities which cause him to doubt the soundness of his health. He comes under the domination of varying moods, ideals, and purposes. Without wilfully being disobedient, he may gain a reputation for laziness and inattention during the first years of adolescence, and later for being reckless and in a constant state of militant activity.

On his twenty-first birthday he is pronounced legally of age and by the time he is twenty-five we recognize him as fully equipped to take his place in the world's work. From the moment of blending of the two sex-cells through which he received his heritage from his father and mother, it has been his task, as Chancellor Jordan has phrased it, to "bring its discordant elements into some sort of harmony—to form his ego by the union of these elements." It has been and must continue to be "his task to soften down their contradictions. He must train his elements of strength to be helpful to some one, in some way, that others may be helpful to him. He must give his weak powers exercise so that their weakness shall not bring him disaster in the competition of life. For it is likely that somewhere, somehow, it will be proved that no chain is stronger than its weakest link. Other powers not too weak, nor over-strong [he] must perforce neglect because in the hurry of life there is not time for every desirable thing. In these ways the character of [his] inheritance is steadily changing under his hands. As he grows older one after another of the careers that might have been his, the men he might have been, vanish from his path forever. On the other hand, by steady usage, a slender thread of capacity has so grown as to become like strong cordage, [and] he achieves at last, in greater or less degree, the 'higher heredity,' the fate that each man must create for himself."

He had no choice in his own parentage, but he can choose for his children to the extent that he may select for them a mother who possesses heritable qualities he does not have; and he can be sure of handing on to them his part of their heritage as he received it; and he can provide the environment and the guidance which will enable his children to make the most of their inheritance. All this he may glimpse dimly during adolescence, but there comes a time when some driving force within him crystallizes it and stirs new emotions and purposes. The altruistic and impersonal hero worship and sentiment for womankind which characterized his period of early adolescence is replaced by a desire for the comradeship and love of the woman who will understand his ambitions and whom he may protect and provide with a home. As he grows in experience as a breadwinner and in knowledge as a father he plans for the future success of his children, and directly or indirectly he concerns himself with their careers and their mating.

What is true of the boy is essentially true of the girl. She has her childhood period of growth, her adolescent development, her realization of the power and beauty of womanhood, and her sharing with men in the work of the world. She has her supreme experience of motherhood, and her final understanding of woman's great part in the passing on of human life and progress to succeeding generations. Thus in its normal, unobtrusive way sex plays a part throughout the life of every individual and makes its plea to each generation for fair play in passing on the stream of life to succeeding generations.

The social hygiene movement is one of the major factors in the conservation of men and women in order that our children's children may have the minds and bodies to utilize most effectively the physical world which we shall bequeath them. We are now asked the question, "Will we let them come, taking our place, gaining through our experiences, hallowed through our joys, building on them their own? Or will we throw their hope away, decreeing wanton-like, that the race they might have been shall never be?"

The teaching of sex hygiene, so called, is not a problem of the schools; it is a problem related to this entire span of years. When we trace the child back to his first knowledge of the phenomena of reproduction and sex, it is conceded by all that much of his information is obtained before the age when he enters school; and it must be conceded that much of the knowledge on this subject he will require in later years can not be wisely applied or fully comprehended until long after the age at which the majority of children leave our schools.

We may approximately parallel the seven ages of man by the seven stages of sex hygiene and education. First, the infant requires the foundation which may be given by the parents through attention to such important physical and social factors as proper food, cleanliness, regular habits, attractive home surroundings, real comradeship between parents and children, clean-minded, active playmates, and correction of defects or conditions calculated to produce sex stimuli. And here begins the formation of good manners which are in fullest truth akin to good morals.

During the second stage the child wants to know where things come from. Sooner or later he will ask about the origin of babies. The stork story, like that of Santa Claus, satisfies him for a time, but probably for no longer than the Santa Claus story. His discovery that the latter is not true is immediately supplanted by the facts, while in the former his discovery generally leads only to more unsatisfactory and evasive answers to his questions.

Recently a letter came to our office from the mother of a little girl. It contained this paragraph:

"Little Margaret (aged four and a half years) asked her father 'Where do babies come from?' 'They grow,' said her father. 'What do they grow from?' Father, thinking to turn her off, said, 'Oh, nothing.' Margaret went away

and thought for a time, then with a puzzled expression came back and said, 'Well, I think it is funny that a real baby can grow from nothing.' "

Obviously the schools can not meet the present needs of this child except through providing the parents with information upon how to answer such questions. When the child enters school, however, this and any other misinformation she may have obtained should be corrected by some school officer if the parents will not meet the situation.

The third stage of five or six years' duration represents that period during which the child is acquiring impersonal knowledge about sex and reproduction in nature. He learns about the pollination of flowers, the breeding of livestock, the mating of birds. He learns something of the meaning of birth and motherhood among his pets. All this is natural and objective like other knowledge of natural phenomena. Here and there, where opportunity offers throughout the grammar grades in nature study, in geography, in history, in composition, the half-truths the child obtains through these channels should be amplified and given dignified meaning. The words sex education and sex hygiene need never escape from the conference room of the teachers where the curriculum is planned.

The fourth stage demands information upon the intensely personal problem of the beginning adolescent changes. Here the responsibility for instruction again shifts to the parents or to a divided responsibility of the parents and teachers. There is need of careful discrimination in measuring individual children and their environment to determine at any given age the amount of information they require upon reproduction and sex phenomena. Unfortunately the method of grading children, adolescents, and adults on the basis of age alone, has been applied to sex education, as it has in the past been applied to physical education and most other subjects. But both parents and teachers are realizing the error in this and beginning to work together on the development of individual instruction or effective grouping of boys and girls for necessary instruction upon the meaning of adolescence.

The late adolescent stage (fifth) of final development into manhood and womanhood requires instruction in personal hygiene of sex, the facts about venereal diseases and their transmission, and the reasons for demanding continence until marriage.

There follows the stage (sixth) of mating when knowledge of the responsibilities of marriage and parenthood is needed. Here the high schools and universities should provide adequate instruction for their students, and should coöperate with parents and social hygiene societies in extension work through night schools, shop talks, and other educational devices for reaching the great majority of young people who leave school after passing the grammar grades. Lastly (seventh) there is the stage of parenthood when the father and mother are in need of training in methods of elementary teaching and in providing the proper environment for children.

Such in brief are the opportunities of the home and school in social hygiene. Let us for a moment consider the limitations of the home and the school in this field. Just as society can follow the child into the home to a limited degree only, so the parents can control the environment of their child outside the home to only a limited degree. One of the important duties of parents and teachers is to obtain proper supervision for the recreation and amusements of young and old. The vice investigations have been valuable in providing information upon the part which unsanitary factories, over-crowded offices, fatigue, the evil influence of designing acquaintances and numerous other factors, collectively play in the environment of the workers in both city and country.

It is obvious that the period when the average child's time is fully occupied and controlled by the home and at school is limited to the pre-adolescent period. I would not argue from this that we should therefore advocate giving all children special courses in sex information which they can not understand, and will not need for years, but rather that we should follow these children out into the industrial world and instruct them there at the ages when information on the various phases of the subject is required.

For the student, teacher, and practitioner of home economics there are not only the general demands, opportunities, and privileges of social hygiene work such as come to all and appeal especially to such of us as give heed to the facts, now better known and better interpreted, which meet us in our daily relations with our several tasks in life; but there are also special privileges and special demands. Teachers need to be trained to understand sex problems as they constantly arise in their schools, and to be able to encourage and assist, not only their pupils, but also others, especially in parent-teacher conferences. The school which has a teacher with the personality and knowledge requisite for advisory work with small groups and with individuals is indeed fortunate.

For the home economist who turns her attention to social service there arises an almost limitless range of personal contacts, giving rare opportunities for advice, warning, and instruction, sometimes for saving irremediable mistakes, and again for rescue and reconstruction. There is no need to dwell upon the part the worker in this field can play, or upon the positive constructive results that may be attained through sane and sound counsel, given not only to inquirers but to many who hardly, if at all, know their own need.

In the home, the parents' work-shop as it has been called, teacher, social worker, and student may, as I have suggested, help the parent to

a solution for the sex problems of the whole family, from baby to grandparent. How much greater the privilege, more urgent the duty, and keener the joy of service and realized aspiration, which fall to the lot of the well informed father and mother who see their children meeting their daily problems with courage and self control. What such parents do for their children is as truly work as the father's wage-earning or the mother's housekeeping.

For all this we need—that overworked word—preparedness. That means that the university, the college, and the normal school have a large share, potentially, through giving the necessary instruction; that their graduates have a clear duty to put to use their more or less thorough knowledge of social hygiene; and that the home and school may coöperate, especially in parent-teacher associations, in plans for reasonable sex-teaching. The home economist must remember that one meaning of social hygiene is home and family preservation and upbuilding; that it is thus vitally interwoven with all that works to these ends; and that the ideal family, father, mother, and children, need the ideal home, fortified by sturdy morality and plain common sense, for their ideal life.

NATIONAL CONFERENCE OF CHARITIES AND CORRECTIONS

PITTSBURGH, PA.; JUNE 6-13, 1917

For the first time in the history of the National Conference of Charities and Corrections, a group of home economics workers and social workers met for discussion of the relationship between home economics and social service. Nearly seventy-five were present at the Home Economics Luncheon Saturday, June 9, held under the direction of the Social Work Committee of the American Home Economics Association. A small group of home economics workers, especially interested in visiting housekeeping, also met several times during the conference week.

Discussion at the luncheon centered around the big question of the day—a practical food conservation program. Dr. C.-E. A. Winslow, of Yale University, vividly and clearly outlined the need for food con-

servation. Reports were given of plans for campaigns in Pittsburgh, Boston, Baltimore, New York, Seattle, and Chicago.

Miss Winifred S. Gibbs told of the development of social work in home economics during the ten years of her service with the New York Association for Improving the Condition of the Poor and of her interesting new Community work in Rochester in connection with the Chamber of Commerce and Mechanics Institute.

Miss Bessie C. Lee of the Visiting Housekeeper Association in Detroit discussed the activities of her staff of seven trained workers and the relationship existing between her association and various factories and social agencies in Detroit. Other visiting housekeepers reporting were: Miss Harper of the Associated Charities, Erie, Pa; Miss Caldwell, of Rochester; Miss Carr, of the Pittsburgh Associated Charities; and Miss Collins of the Chicago Commons.

Dr. C. F. Langworthy, Chief of the Office of Home Economics, U. S. Department of Agriculture, discussed the subject matter of food conservation and gave many practical suggestions for waste prevention, food preservation, and meal-planning to insure adequate nutrition.

Mrs. John M. Glenn, former President of the National Charities and Corrections Conference and now Executive Secretary of the New York Civilian Relief Committee of the American Red Cross, spoke inspiringly of the contributions which she believed home economics people could make during the present emergency, both through our own workers and the advice and instructions which we can give to others. She urged, however, that we learn from the family case-worker that families differ greatly and have to be studied and handled individually rather than as a group. From her experience as a member of the Advisory Committee on Home Economics in the New York Charity Organization Society she feels that too often we place great emphasis upon establishing a standard and having all families live according to it. This is desirable to a certain extent, but should not be so stressed that there is no consideration of individual variations which always have existed and always will.

In the general discussion which followed, these points were especially emphasized:

Food advice to foreign families must be based on an actual knowledge of their dietary habits.

Men need food education as well as women. Much can often be more quickly done by appealing to men than by appealing to women.

This is especially true among the foreign groups where the man's desire rather than the woman's usually controls home life.

The educational value of the cafeteria lunch was brought out by the director of one of the Pittsburgh school lunch rooms, and also by Mrs. Routzahn of the Russell Sage Foundation, who told of her experiences in being given food education at a New York cafeteria where all trays are inspected and criticized by a trained dietitian.

Mr. E. G. Routzahn, Associate Director of the Department of Surveys and Exhibits of the Russell Sage Foundation, urged that more attention be given to the proper planning and arrangement of printed matter used in food conservation campaigns so that essential points would be most effectively brought out. He also urged that we use well-planned lantern slides, good window displays, and interesting general exhibits to supplement lectures and demonstrations. He criticized the apparent tendency in food conservation campaigns to try to accomplish too much at a single time, rather than breaking the general program into successive steps and emphasizing each one separately in every possible way.

Miss Marian Perkins of the Brooklyn Bureau of Charities told of the cooking demonstrations which have been held in Brooklyn under the leadership of Miss Florence Nesbitt.

Miss Emma A. Winslow told of similar work done in New York under the Charity Organization Society and of the report of this experiment soon to be prepared for publication, and also spoke briefly of the food conservation work to be undertaken by the States Relations Service of the U. S. Department of Agriculture, if the food bill before Congress is finally approved. This work is to be done by emergency food agents working under the direction of the State Colleges of Agriculture and is to be carried on in urban as well as rural districts. Miss Winslow urged the coöperation of home economics and social workers in helping to make this service as successful and effective as possible.

The Home Economics Luncheon was, of course, only a minor part of the big Conference program. A number of the conference sessions were devoted to the discussion of Social Problems of the War, and stimulating, constructive addresses were made by Irving Fisher and C.-E. A. Winslow of Yale University, Miss Helen Reid of the Canadian Patriotic Fund, W. Frank Persons, Eugene T. Lies, Elliott Wadsworth, and others of the American Red Cross, Edward T. Devine, William H. Taft, and many others of national and international prominence.

At one of the meetings of the Health Section, Miss Lucy H. Gillett of the New York Association for Improving the Condition of the Poor, gave a very interesting report of the practical conclusions to be drawn from the dietary study she has just completed under the direction of Professor Henry C. Sherman. Other distinguished speakers at this meeting were Professor Graham Lusk of Cornell University and Dr. Carl Alsberg of the Bureau of Chemistry, U. S. Department of Agriculture.

The full proceedings of the Conference will soon be available in printed form, and should prove helpful to the home economics worker as well as the social worker.

The Conference, under its new name, National Conference of Social Work, will meet in June of next year at Kansas City. Miss Winslow, Chairman of the Social Work Committee of the Association, was appointed a member of the Conference Committee on Problems of the War and Reconstruction, and it is hoped that next year's meetings will still further strengthen the active connection between those interested especially in the problems within the home and those who deal with the broad social and economic problems which influence the home so strongly from without.

EMMA A. WINSLOW.

SOME NEEDS OF THE AMERICAN RED CROSS

A cablegram lately received from Paris by the American Red Cross gives the following list of articles that are urgently required:—

1,000,000 comfort bags. 1,000,000 mufflers of dark material, at least 2 yards long and 1 foot wide. 1,000,000 sweaters of dark material. 1,000,000 pairs heavy worsted mitts.

The suggestion is made that amateur effort be used on the above named articles rather than on socks because many hand knitted socks have inequalities which are hard on soldiers feet. These articles should be shipped as soon as possible.

There seems to be a substantial supply of muslin bandages on hand but there is need for gauze bandages in as large quantities as they can be shipped.

It is asked that all the above be hurried, since they are urgently needed. The suffering last winter was frightful and will probably be worse this year. Most of the materials named can be used not only for soldiers but also for the civilian population if necessary.

AN EXPERIMENT IN TEACHING FOOD VALUES¹

ISABEL BEVIER

Director of Household Science, University of Illinois

The misfortunes of the war are evident on every hand. Its benefits are not nearly so easily seen and yet they are beginning to appear. In spite of the teaching of years, the great mass of the people have been indifferent to "scientific feeding," and have preferred the good old way. No "new-fangled notions," no "calories," "just food" has been the cry.

With the shortage of food and the demands for saving it, there has come even to the mind of "the people" their helplessness because of their ignorance of food values. The people are writing to Washington, to the agricultural colleges, to anybody and to everybody for help in saving food. In response to this demand a great variety of helps to the housewife are appearing. Mr. Hoover's instruction card and the Government devices are variations of lessons in food values. Everyone understands perfectly that four quarters may take the place of one dollar in buying food, but many people cannot tell how many eggs at forty cents per dozen may be used to replace in food value round steak at twenty-five cents per pound, or how to substitute for a quart of milk. It is easy even now to see that the term food value is beginning to receive respectful attention, and that way lies the basis for wise buying of food.

The University of Illinois has many avenues of approach to the food question. Its classes in selection and preparation of food, in dietetics, its practise apartment, and its lunchroom, each has studied its particular part of the problem this year with unusual care.

The lunchroom afforded the easiest approach to the general public and was therefore chosen as the medium for helping its patrons and through them a larger circle to what might be called selection of food or efficient and economic eating. It was thought that an idea of the general food habits of a few of its patrons could be secured by listing their menus for a period of time. Five different types of individuals were chosen from the regular patrons—a man student, a woman student, two faculty women, and one faculty man. Their menus were observed and calculated for fifteen days. Some of the results obtained are given below.

¹ A full report of this work is given in a bulletin just published by the Household Science Department of the University of Illinois.

(1)		(2)	
Frankfurters	Mince pie	Bread	Meat pie
Baked beans	Nut cake	Butter	Browned potatoes
	Chocolate ice cream	Frankfurters	Chocolate cake
Protein Calories	Total Calories	Orange ice	Total Calories
205	1517	Protein Calories	962
		90	

(3)	
Bread, 2 slices	Baked beans
Butter	Mashed potatoes
Beef a la mode	Gravy
	Vanilla ice cream
Protein Calories	Total Calories
255	1268

The above lunches are examples of too much protein with entire absence of fresh fruits and vegetables.

(4)		(5)	
Bread	Rice and tomato	Bread	Tomato and lettuce
Muffin	Asparagus on toast	Butter	salad
Butter	White cake and frosting	Salmon loaf and cream sauce	Yellow cake and frosting
Protein Calories	Total Calories	Protein Calories	Total Calories
104	1005	112	1095

(6)	
Roll	Vegetable soup
Crackers	Creamed cauliflower
Butter	Tomato salad
Protein Calories	Total Calories
77	603

The above menus are good examples of the use of fresh vegetables.

(7)		(8)	
Bread, 2 slices	Navy beans	Bread, 2 slices	Mashed potatoes
Butter	Baked creamed potatoes	Butter	Gravy
Baked eggs	Apple pie	Baked eggs	Apple pie
Protein Calories	Total Calories	Protein Calories	Total Calories
130	1054	91	851

(9)	
Bread, 2 slices	Mashed potatoes
Butter	Gravy
Lima beans	Lemon pie
	Peach, $\frac{1}{2}$
Protein Calories	Total Calories
59	821

The above are illustrations of monotony; mashed potatoes and pie with the absence of fresh vegetables.

These nine menus represent the common mistakes in diet: too much protein, or absence of fresh fruits and vegetables, and lack of variety.

The average fuel value of each person's lunches for fifteen days was:

	<i>Calories</i>
Faculty man.....	768
Faculty woman.....	775
Faculty woman.....	924
Student girl.....	931
Student man.....	1028

In order to help those interested to make a better selection the usual cafeteria menu board was rearranged in the following manner.²

1. Meat and meat substitutes—protein.
2. Green vegetables and fruits—acids and minerals.
3. Starchy and creamed vegetables—starches.
4. Desserts other than fruits—sugars and fats.

Beside the menu board were placed the following charts:

Menu A

- Take
- (1) Meat
or Meat substitute
Eggs
Macaroni and cheese
Rice and cheese
or Cream soup
and
(2) Rice
or Macaroni
or Potatoes
or Hominy
or Creamed vegetable
and
(3) Green vegetable
or Fruit
or Salad
or Vegetable soup
or Relishes
and
(4) Bread and butter

Menu B

- Take
- (1) Meat
or Meat substitute
Eggs
Macaroni and cheese
Rice and cheese
or Cream soup
and
(2) Green vegetable
or Fruit
or Salad
or Vegetable soup
or Relishes
and
(3) Pie
or Cake
or Pudding
or Ice cream
and
(4) Bread and butter

² Adapted from Caroline L. Hunt and Helen W. Atwater, "How to Select Foods," Farmers Bulletin 808, United States Department of Agriculture.

Before any of the above work was possible, it was necessary to have the food value determined in terms of portions or servings. While this involves a good deal of labor, it also places the work of cooking on a scientific basis and makes possible an economic study of the food materials used. It also lessens the dangers of inaccuracy and miscalculations regarding quantities and the possible number of servings from a given quantity, a question difficult for the inexperienced to answer.

The lunchroom manager may not be able to make good cooks of her students in one semester, for good cooking is an art acquired by much practice, but it is possible by this means to help students to learn to think of portions in terms of calorific value.

As was to be expected, some of the patrons scoffed and declared they wished food, not calories, but later it was evident that some of the scoffers had reached the stage of curiosity as to what was on the board, and it is believed that many of them will soon be ready for the next step,—the calorific value of each article or suggested combinations giving the fuel value.

A Meatless, Wheatless Meal served
in Dining Hall, University Farm,
St. Paul, July 23, 1917.

MENU

Pea Soup	
Rye Croutons	
Dill Pickles	
Boiled Cabbage	Buttered Turnips
Mashed Potatoes	Lima Beans
Rice Cornflake Fritters	Maple Drip
Rye Bread	Oatmeal bread
Corn Bread	Butter
Raisin Indian Pudding	Lemon Sauce
Lemonade	

THE WORK OF THE FOOD ADMINISTRATION

While for some months the Food Administration, under the leadership of Mr. Hoover, has been gathering together workers and formulating plans, it was only on August 10 that the United States Food Administration was officially created, and that Herbert Hoover, on his birthday, was formally appointed as Food Administrator.

In estimating the work of the Food Administration, three things must be kept in mind, the very short time it has been in existence, the powers conferred upon it by Congress, and the real purpose for which it was created.

There seems to have been a general and entirely unfounded expectation that the immediate result was to be a lowering of retail food prices, though Congress had conferred no power of such direct control. The main purpose is not lowering of prices, though it is hoped that this will result, but the conservation of food. To use Mr. Hoover's words:

The hopes of the Food Administration are threefold. First, to so guide the trade in the fundamental food commodities as to eliminate vicious speculation, extortion, and wasteful practices and to stabilize prices in the essential staples; second, to guard our exports so that against the world's shortage we retain sufficient supplies for our own people and to cooperate with the allies to prevent inflation of prices; and, third, that we stimulate in every manner within our power the saving of our food in order that we may increase exports to our allies to a point which will enable them to properly provision their armies and to feed their peoples during the coming winter.

To carry out these purposes we are asked not to go without needed food, indeed we are urged to "eat wisely and well," but to choose our foods in such a way that those most needed across the seas, especially the most concentrated foods, such as wheat, beef, pork, dairy products, and sugar may be saved for export. We have for our own use an abundance of food stuffs of other kinds—the perishables, fish, corn and other cereals—and we are asked so far as possible to substitute these for those other products of greater use abroad.

Mr. Hoover tells us that 70 per cent of our people are "as thrifty and careful as any in the world," and that of these we need ask only such substitution as is possible, but he asks the other 30 per cent "by simpler living" to reduce consumption. He warns against waste in these words:

Every ounce of waste is a contribution toward starvation. Our allies have reduced consumption by the most drastic measures, but it is impossible to reduce consumption to those in war work and engaged in other physical labor.

Therefore the incidence of this drastic reduction among our allies falls upon the old people and the women and children, and any shortage in the supplies we may send them will fall upon this class and this class only, for until they are reduced to starvation they themselves will insist on every sacrifice in order that their fighters in the trenches and the men and women in the munition factories may be maintained.

There is no royal road to food conservation. It can be accomplished only through sincere and earnest daily coöperation in the 20,000,000 kitchens and at the 20,000,000 dinner tables of the United States. If we can reduce our consumption of wheat flour by 1 pound, our meat by 7 ounces, our fat by 7 ounces, our sugar by 7 ounces per person per week, these quantities, multiplied by 100,000,000, will immeasurably aid and encourage our allies, help our own growing armies, and so effectively serve the great and noble cause of humanity in which our nation has embarked.

It is to encourage and stimulate this food conservation that the pledge card has been devised and that the nation wide campaign for signatures is to be begun in October.

Let it be clearly understood that those who are using only enough—much less those who are using too little—are not asked to use less. They are asked to substitute when they can, and not even to do this if it means a greater expenditure of money.

But it is true that our per capita consumption of both sugar and fat is at least an ounce of each more than the best dietetic standards ask, and this means, since many have too little, that some are using a great deal too much.

In order that proper substitution of foods be made, it is necessary that every one who is providing food know what is meant by an adequate diet, and that everyone understand enough of the characteristics of foods to substitute safely one food for another.

It is in helping get this message over to as many women as possible that home economics has found itself a place in the food conservation. The control of transportation and of export, and the fixing of prices to the producer are some of the many problems that are confronting the Food Administration.

The duty has been laid upon the Food Administration to coöperate with the patriotic men in trades and commerce, that we may eliminate the evils which have grown into our system of distribution, that the burden may fall equitably upon all by reversion, so far as may be, of the normal course of trade. It is the purpose of the Food Administration to use its utmost power and the utmost ability that patriotism can assemble to ameliorate this situation to such a degree as may be possible.

FOR THE HOMEMAKER

THE FAMILY BALANCED RATION

In time of war as in time of peace it is not only important, but essential that the people be well fed. Victory does not depend alone on guns and soldiers; it depends as well on the efficiency of every man, woman, and child back of the firing line. To maintain this efficiency there must be enough food and it must be so cooked and so combined as to be both palatable and nourishing.

The selection or organization of food in the diet is as important as the organization of an army; a small amount of food rightly combined will give more energy than a large amount badly combined, just as a small disciplined force of soldiers is more effective than an untrained mob.

There is nothing mysterious about planning the cheapest, most palatable and most nutritious meals. On the fingers of one hand the different groups of foods can be counted thus:

1. Foods depended on for mineral matters, vegetable acids, and body-regulating substances.

2. Foods depended on for protein.

3. Foods depended on for starch.

4. Foods depended on for sugar.

5. Foods depended on for fat.

If all these groups are included in the diet the body will lack no necessary kind of material. To illustrate:

GROUP 1. *Foods depended on for mineral matters, vegetable acids, and body-regulating substances*

Fruits:

Apples, pears, etc.
Bananas
Berries
Melons
Oranges, lemons,
etc.

Vegetables:

Salads—lettuce,
celery, etc.
Potherbs or “greens”
Potatoes and root
vegetables
Green peas, beans, etc.
Tomatoes, squash, etc.

GROUP 2. *Foods depended on for protein—for muscle building*

Milk, skim milk,
cheese, etc.
Eggs
Meat
Poultry

Fish
Dried peas, beans,
cowpeas, etc.
Nuts

GROUP 3. <i>Foods depended on for starch</i>		GROUP 4. <i>Foods depended on for sugar</i>	
Cereal grains, meals, flours, etc.	Cakes, cookies, starchy puddings, etc.	Sugar	Candies
Cereal breakfast foods	Potatoes and other starchy vegetables	Molasses	Fruits preserved in sugar, jellies, and dried fruits
Bread		Sirups	
Crackers		Honey	Sweet cakes and desserts
Macaroni and other pastes		GROUP 5. <i>Foods depended on for fat</i>	
		Butter and cream	Salt pork and bacon
		Lard, suet, and other cooking fats.	Table and salad oils

Think of foods in these groups. If possible, *see to it that at least one food from each group is served at least once a day.* Learn from a study of these groups how to make up your own menus, and how to substitute one food for another in accordance with palatability and price. When laying in supplies of foods, think in terms of these groups. Realize, for example, that when it is difficult to obtain meat, dried beans and peas, dried fish and nuts can be eaten instead, and that the cereals, too, are rich in protein. When potatoes are scarce, rice or cornmeal is an excellent substitute.

A knowledge of these facts will prevent much sickness and useless expenditure of money. Consult with neighbors. Get in touch with your County Agent, your State Agricultural College, or with the United States Department of Agriculture if you want more information.

The war must be won in the kitchens and on the dining tables of America as well as in the trenches. The Department of Agriculture stands ready to supply information to help the housewife do her bit toward winning this war.

CARL VROOMAN,

Assistant Secretary of Agriculture.

The Department of Agriculture is the central agency of the United States for collecting information regarding the rational and effective use of human food. Further suggestions along these lines will be found in the following bulletins which are available for free distribution upon but postal card request: Corn Meal as a Food and Ways of Using It, F. B. 565; How to Select Foods—I, What The Body Needs, F. B. 808; How to Select Foods—II, Cereal Foods, F. B. 817; How to Select Foods—III, Foods Rich in Protein, F. B. 824; How to Select Foods—IV, Fruits and Vegetables, F. B. (not yet numbered); Home Canning by the One-period Cold-pack Method, F. B. 839; Drying Fruits and Vegetables in the Home, F. B. 841, 976; Fresh Fruits and Vegetables, Conservers of Staple Foods, F. B. 871.

THE HIGH COST OF LIVING. II.

CHARLES J. BRAND

Chief, Office of Markets and Rural Organization, United States Department of Agriculture

The President of the United States recently summarized the hazards and uncertainties of farming in all lands and at all times by saying that "the farmer is the servant of the seasons." This is absolutely true and should be borne in mind in considering the present food situation. This one sentence sums up, in large part, the conditions under which agricultural production is carried on. The farmer did not withhold his hand at the seeding time for the crop of 1916. He planted generously, and in the case of most crops, an average greater than in recent years.

The condition of high prices is not due to any failure on the part of American agriculture to attempt to provide for the peoples' wants. Since a relatively normal production occurred, except in the case of a few crops, it is desirable that we come to some conclusion as to what has occasioned the shortage and the high prices.

The first thought that occurs to most persons is that our exportation of foodstuffs has been too large. But the published statistics indicate that this is not a sufficient explanation. Meats are largely exported, but meat prices have risen relatively far less than other commodities. Only cereals, canned foods, meats and a relatively small number of other articles have been exported to any extent. We must look to a considerable extent to other factors than export for an explanation of the fact that we face a general shortage, whereas the shortage in production was confined to a few crops. Without ignoring increase of gold and credit, crop shortage, exports and inadequate car supply, I have come to the conclusion that domestic waste and over-consumption, due to high purchasing power on account of prosperous industrial conditions, have been the most potent factors in the existing situation.

I will illustrate my point by a concrete case.

It was well known as early as the first of August, 1916, that there was a shortage of supply in eggs. On that date the Department of Agriculture published the fact that the quantity stored was 24 per cent short compared with 1915. On November 1, the same conditions prevailed.

¹ Extracts from an address entitled "Conservation, Increased Production, and Improved Distribution of Foodstuffs," delivered before the Women's City Club Mass Meeting, March 4, at Lyceum Theatre, New York City. Used with the permission of Mr. Brand.

Prices ruled high, but the people bought eggs at the usual rate. The monthly reports on eggs in cold storage on December 1, 1916, and January 1, 1917, showed that the surplus was being consumed at a faster rate than the year before. Necessarily under such conditions prices went up. Some people have charged that owners of eggs held them back from the market. If they did, they performed a useful service, for egg prices in January and February would certainly have been very much higher if they had not. As a matter of fact on February 1, our reports showed a shortage of 75 per cent as compared with the year before. If every consumer had resolved on November 1 to do his share of the economizing; if every housekeeper had bought nine eggs instead of twelve, the shortage being practically one-fourth, the short supply would no doubt have gone into consumption at reasonable figures.

A similar instance happened in connection with onions.

In passing I may say that eggs and onions are not exported products. We cannot blame the foreigner for having eaten our supplies. The American consumer has probably forced the high price levels by purchasing liberally in spite of the dwindling stocks.

The trouble has been that we were determined to have all we wanted whenever we wanted it because we had the money to buy. And this charge must be laid to the door particularly of the more prosperous element of the community. When the facts of a shortage become known, it is only the part of prudence for the consumer to study carefully and intelligently how to meet the situation and proceed upon a logical course. How much better economics it would be if, instead of forcing prices to an unreasonable height, we would moderate our usual requirements, avoiding the necessity of times of boycott during which we deny ourselves wholly for a time desirable food products. What we should have is the consistent limiting of purchases commensurate with production rather than the occasional and sporadic boycott.

The Department of Agriculture publishes monthly fairly accurate reports of the stored supplies of eggs, butter, cheese, apples, and meats. It publishes estimates of the production of all crops each autumn. There is practically never a great shortage in any particular crop without some foreword of warning. These reports are furnished to the Department voluntarily by the reporting firms, who have been quite generous in their coöperation, but it seems definitely desirable that these reports on foodstuffs which are so intimately connected with the public interests of the nation should not be left on a voluntary basis

that might at any time be ineffectual, but should be required periodically and if need be under oath as to their accuracy. The food supply of the people is of paramount importance and the Government should not be without power to command every necessary bit of information concerning it.

The great majority of American families give too little attention to the question of a normal food ration. Experts in home economics have estimated that we waste annually as much as \$700,000,000 worth of foodstuff in the United States. This is about \$7 a year for every man, woman, and child.

It has been unpopular in America to be economical. Until we can popularize economy and prudent frugality, there is little hope of our meeting in effective fashion our present food problem, to say nothing of the acute problem that would be presented should we have a really small crop of food products generally throughout the United States.

We must start a "Eat-What-We-Need-And-Don't-Waste-Anything" campaign and make it effective. It is not sufficient for any one section of the people to complain of high prices and demand improvement, for the only improvement that can come must be the result of millions of individual actions. There is undoubtedly enough food in the country for all of the people, but it must be properly husbanded and more uniformly distributed. Demand must be brought in line with supply. I am especially insistent that the millions who are relatively comfortable in this country have no right in the selfish pursuits of their own satisfaction to impose undue hardships upon their less fortunate fellows, particularly in a world so utterly distraught as is the one in which we live at the present time. In a very large sense I am my brother's keeper and I must order my living accordingly. So much for the problem as it exists, and for the most important of all of the possible remedies.

A CHART FOR CANNING*
The University of Wisconsin

FRUITS	PREPARATION	HOT DIP minutes	COLD DIP minutes	PROCESSING IN BOILING WATER† minutes	PROCESSING IN PRESSURE COOKER minutes	REMARKS
Apples	May be pared, cored and cut into halves, quarters or smaller pieces	2	$\frac{1}{2}$	20	8 at 5 lbs. 6 at 15 lbs.	Use thin syrup.
Berries	Pick over, wash and hull			15	6 to 8 at 5 lbs. 4 to 6 at 15 lbs.	Use medium syrup. Imperfect berries may be mashed, strained and used in place of water in syrup.
Cherries	Wash, remove stem; pits may be removed			30	6 to 8 at 5 lbs. 4 to 6 at 15 lbs.	Use medium syrup.
Currants	Wash and pick from stems			20	10 to 12 at 5 lbs. 6 to 8 at 15 lbs.	Use medium syrup.
Gooseberries	Wash, snip off stem and blossom end			30	10 to 12 at 5 lbs. 6 to 8 at 15 lbs.	Use medium or thick syrup.
Peaches		3	$\frac{1}{2}$	30	5 to 10 at 5 lbs.	Skins should be removed before packing. Stones may be removed. Use medium syrup. Use thin syrup.
Pears	Wash, pare or not as desired. Small pears may be canned whole or cut in halves or quarters	3	$\frac{1}{2}$	30	8 at 5 lbs. 6 at 15 lbs.	
Pineapple	Hold top of pineapple with cloth. Use sharp knife, cut off skin, remove eyes. Slice down till core is reached. Cut slices into $\frac{1}{4}$ inch cubes. Wash. Stones may be removed	10		30	8 at 15 lbs.	Use thin or medium syrup. Use water in which blanched for syrup.
Plums				30	12 at 5 lbs. 8 at 15 lbs.	For sweet plums use thin or medium syrup. For sour plums use medium or thick.
Rhubarb	Wash. Cut in $\frac{1}{2}$ inch pieces. Use sharp knife			15	15 at 5 lbs.	Use thin or medium syrup. If skins are left on rhubarb it keeps its pink color.

VEGETABLES	PREPARATION	HOT DIP minutes	COLD DIP minutes	PROCESSING IN BOILING WATER† hours	PROCESSING IN PRESSURE COOKER minutes	REMARKS
Asparagus	Wash, remove tough end, cut to fit jar, tie in bundles	5	$\frac{1}{2}$	2	50 at 5 lbs. 25 at 15 lbs.	Remove string before placing in jar. Can or dry tough ends for soup.
Beans (lima)	Shell and wash	2 to 5	$\frac{1}{2}$	3	60 at 5 lbs. 40 at 20 lbs.	
Beans (string)	Wash, string	2 to 5	$\frac{1}{2}$	2	60 at 5 lbs. 40 at 20 lbs.	May be left whole or cut into narrow strips, or inch pieces.
Beets	Remove tops, leaving 3 inches; wash	Boil till skins loosen (about 1 hour)	1	1 $\frac{1}{2}$	60 at 5 lbs. 35 at 20 lbs.	Remove tops, skin and roots after cold dip.
Carrots	Remove tops; scrub	Boil till skins loosen (about 20 minutes)	1	1 $\frac{1}{2}$	60 at 5 lbs. 35 at 20 lbs.	Skin may be removed before packing in jar.
Cauliflower	Wash, break into clusters, soak in salt water (2 t. salt to 1 quart water) 2 hours	3 to 5	$\frac{1}{2}$	1 $\frac{1}{2}$	30 at 5 lbs. 20 at 15 lbs.	
Corn	Husk	5	$\frac{1}{2}$	3	60 at 5 lbs. 35 at 20 lbs.	Corn should be removed from cob before packing.
Greens (Spinach, beet tops, chard, dandelions, etc.)	Pick over, wash in several waters until free from sand	Steam till thoroughly wilted		3	50 at 5 lbs. 40 at 15 lbs.	Greens may be chopped or left whole.
Peas	Shell and wash	3	$\frac{1}{2}$	2	60 at 5 lbs. 40 at 20 lbs.	
Radishes	Remove stems and roots; wash	Blanch 3 for medium size, 5 for large	$\frac{1}{2}$	1 $\frac{1}{2}$	20 at 15 lbs.	
Tomatoes	Wash and remove stems	Scald till skins loosen	$\frac{1}{2}$	$\frac{1}{2}$	15 at 5 lbs. 10 at 20 lbs.	Remove skins before packing; tomatoes may be canned whole or in pieces. Stem, cook, and strain imperfect tomatoes. Use this for liquid.

* This chart is published as a whole, even though it is too late for many of the fruits and vegetables, since it is convenient for reference to have the complete list.—Editor's Note.

† Count from time when water begins to boil.

‡ For both pint and quart jars. Add one-half hour to time of processing for 2 quart jars.

Caution.—Test rubbers. If rubbers are injured in processing, replace by new.

HOW AND WHY WE SHOULD SAVE FATS

The United States is producing what in normal times would constitute an abundant supply of vegetable fats such as cotton seed oil, and peanut oil, and enough animal fats to meet our needs. Yet there is no question that a period of fat stringency is impending. An excessive use of fats for the manufacture of soap, explosives, and lubricants, and the lack of tonnage to transport the amount of fats and oils imported by the Allies from the tropics has brought about increasing consumption and decreasing supply. The stringency must be relieved in two ways.

There must be an increased production of vegetable oils by the utilization to the fullest possible extent of the soy bean, cotton seed, and peanut for oil manufacture. There must be also every effort to increase the amount of dairy products.

On the other hand fats must be conserved as far as is possible. This must involve a reduction, to some extent, of the fat consumption in the human diet. That a good many people are using too much fat (how much is eaten and how much wasted we do not know) is shown by the fact that in America we use more than $3\frac{1}{2}$ ounces of fat per person per day, while an average of 2 to 3 ounces is sufficient.

We need to keep one thing clearly in mind. The fats of milk and eggs are in a class by themselves so far as fats serving for human foods are concerned. Milk or egg-yolk fats should always be supplied in the diet of children, for they contain something which is indispensable to health and growth. This something is contained in much smaller amounts in the body fats of animals and is not present in fats or oils of vegetable origin.

The needs of children for milk fats cannot be over-emphasized, and, owing to the peculiar demands of children for special physical properties in their foods, there are no articles other than milk, cream, butter, or egg yolks which can be used as sources of this dietary essential. For the adult there is no danger of any ill effects from reducing or stopping the consumption of butter.

Besides reducing somewhat the use of fats generally, as food, we must check the waste of fats and use every particle. We can also help if we do not use butter for cooking, if we lessen the amount of frying, and if we use, for such frying and sautéing as we do, the vegetable oils rather than the high melting fats, since we have a much greater supply of oils than of solid fats.

POTATOES

The United States Department of Agriculture estimates that the total potato yield this year will be more than 467,000,000 bushels. In 1916 the crop was 285,000,000 bushels and in 1915, 360,000,000. That potatoes will be cheaper and may be used freely will be welcome news to the many housekeepers who have exercised all their ingenuity in devising substitutes for them.

Since the early harvested potatoes can not be kept easily those now on the market are distinctly in the class of "perishables," that the Food Administration is asking us to use abundantly, to save products that may be kept or transported. Instead of devising schemes to use rice and macaroni instead of potato we may now see how far the potato may take the place of wheat products.¹ "A small potato (3 or 4 ounces) supplies as much starch as a large slice of bread (1 ounce) but rather less protein. Potatoes eaten abundantly make it possible to get along with less bread. Potatoes can be substituted for about one-fourth of the wheat flour used in making ordinary bread and rolls."

JELLY MAKING

Much waste of sugar and spoilage of jellies can be avoided by using a simple alcohol test recommended by the Bureau of Chemistry, United States Department of Agriculture. To determine how much sugar should be used with each kind of juice put a spoonful of juice in a glass and add to it one spoonful of 95 per cent grain alcohol, mixed by shaking the glass gently. Pour slowly from the glass, noting how the pectin—the substance in fruits which makes them jelly—is precipitated. If the pectin is precipitated as one lump a cup of sugar may be used for each cup of juice (many prefer not to use more than $\frac{3}{4}$ or $\frac{7}{8}$ of a cup) if in several lumps the proportion of sugar must be reduced to approximately three-fourths the amount of the juice. If the pectin is not in

¹ Farmers Bulletin 871. Fresh Fruits and Vegetables as Conservers of other Staple Foods.

lumps but is merely precipitated, the sugar should be one-half or less of the amount of the juice. If the juice shows no precipitation under this test, it is unsuitable for jelly making and must be combined with apples or other juices rich in pectin.

The fruit juice must not only contain pectin but be somewhat acid to make good jelly.

FOOD ADMINISTRATION PLEDGE

TO THE FOOD ADMINISTRATOR,
WASHINGTON, D. C.

I AM GLAD TO JOIN YOU IN THE SERVICE OF FOOD CONSERVATION FOR OUR NATION AND I HEREBY ACCEPT MEMBERSHIP IN THE UNITED STATES FOOD ADMINISTRATION, PLEDGING MYSELF TO CARRY OUT THE DIRECTIONS AND ADVICE OF THE FOOD ADMINISTRATOR IN THE CONDUCT OF MY HOUSEHOLD, IN SO FAR AS MY CIRCUMSTANCES PERMIT.

Name.....

Address.....

Number in Household..... Do you employ a cook?.....

Occupation of Breadwinner.....

Will you take part in authorized neighborhood movements

for food conservation?.....

There are no fees or dues to be paid. The Food Administration wishes to have as members all of those actually handling food in the home.

DIRECTIONS

Mail your pledge card to the Food Administrator, Washington, D. C., and you will receive free your first instructions and a household tag to be hung in your window.

Upon receipt of ten cents with your pledge card and a return addressed envelope, the official button of the Administration, and if desired, the shield insignia of the Food Administration will also be sent you.

EDITORIAL

Business as Usual. Probably no war-time phrase has been used more often than this, and with such conflicting emphasis. We have been urged over and over again to observe it, and as urgently begged to disregard it. Perhaps the apparent contradiction is after all only a difference in interpretation. Some read into the phrase a request for the accustomed amount of spending, a demand for the support of every industry, and even a plea for luxurious living.

To others, it means that everyone is to maintain a sane and steadfast purpose; that he is to realize that "the very first duty of every intelligent and educated person is to keep his head, and consider how his labor can be made most effective;" that he is above all to do his own job.

That job may be the giving up of one's usual task, and undertaking some new and dramatic work, but to most of us it means that we must do to the best of our ability the every-day work that we have always done, and learn to do it so effectively, and so well, and so swiftly, that if the additional opportunity comes, we can undertake the new work too.

If we are not careful, we may yield to the temptation, always present at such times as this, to neglect the usual for the unusual, the every-day task for the one that seems greater and more alluring.

In many of our cities, charity societies and other social agencies are feeling the pinch of retrenchment, because gifts are transferred from them to emergency organizations, when they are in greater need of support than ever, and when the new calls for money should be answered by greater generosity, not by transferring the gift from one channel to another. Children are leaving school, and young men and women hesitating to complete their college work, because of these other things that seem more important at the present time.

We need to repeat the slogan "Business as usual," with this interpretation: Let us fulfill the new demands, but let this work be in addition to the every-day task that belongs to us, not instead of it.

Household Waste and Public Waste. From time to time one meets with something like rebellion on the part of the housekeeper who is asked in a multitude of ways, by every newspaper and magazine and speaker, to "eliminate waste." It is not that she is unwilling to do her part, but that when she compares the amount she can save, by the most careful economy, with the public waste of which she hears constantly, she questions whether her efforts are worth while, after all.

She hears rumors of carloads of vegetables dumped into the harbor; of wharves piled high with fruit and vegetables that through bad handling must be thrown away; of the holding of food by speculators for a higher price, and its consequent spoiling; she is told of the waste in hotels and institutions, and even in army camps; and of the use of food grains for alcoholic drinks.

She sometimes wonders whether her time is well spent in trying to divert from this river of waste the tiny stream from her own household that has been one of its thousands of tributaries.

But we need to remember that public reforms follow, not precede, private convictions. If we "eliminate waste" in the household today we shall train our children—our boys as well as our girls—to such habits of care and efficiency that the next generation may automatically "eliminate" public waste. This is our great hope, but we are not without immediate encouragement.

In New York city the women themselves have gone to the wharves, have trimmed vegetables and have had all that could be saved sent to a central kitchen for canning and drying; the waste in camps is in the new, not the regular army, and will undoubtedly be controlled by the government as rapidly as possible; distilled liquors are no longer to be manufactured in this country, while in England the amount of grain used for fermented drinks has been cut down 75 per cent, and none is used for distilled liquors; the hotel men have met and agreed upon certain economies; and the government through the Food Administration is taking drastic measures to prevent speculation.

So we in the household and in the school will cheerfully "do our bit," and as we gain greater influence in municipal housekeeping we will endeavor to carry over into the larger field the lessons we have learned, and the plans we have found effective.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Food and the Principles of Dietetics. By ROBERT HUTCHISON. New York: Wm. Wood and Company, 4th edition, 1917, pp. 617. \$4.00. By mail of the Journal \$4.20.

This is a new edition of one of the best known and most comprehensive of our standard text-books in dietetics; one which, at the time of its first appearance (1900) was remarkable for the enormous amount of chemical, technological, and physiological literature which it covered most excellently and up to date; which was and is, remarkable among text-books on dietetics, for the numerous citations of original investigations with which its statements are supported; which was and is remarkable for its clearness of style and for its practical applications of scientific knowledge. Even up to the present day, it has steadily held its place as one of the score or perhaps dozen texts, with which the dietitian's library cannot dispense.

In this new edition, some 50 or 60 pages have been inserted at intervals, among the five hundred or so pages of the third edition. One new chapter is on "Some Dietetic Cures and Systems," (10 pp.) and deals briefly with vegetarian diet systems, purin-free diets, Dr. Hare's system, exclusive protein diet (the Salisbury cure), zomotherapy, salt-free diet, soured milk treatments. About 20 pp. of additional matter dealing with medical dietaries have been included in chapter 28, under "Principles of Feeding in Disease." It will be observed that these 30 pp. constitute half of all the new material.

The topic "Vitamines" is treated in three paragraphs, and in a few scattered sentences here and there. To those who are collecting the opinions of authorities upon this much confused subject, the following sum-

mary as to their occurrence may be of interest: "We know that they are only represented in extremely small quantity in ordinary food-stuffs, but that they are accumulated in relatively much greater amount in certain articles, such as the pericarp of rice, wheat, and other cereals, the brain, heart, and eggs of mammals and birds, and in yeasts. The anti-scorbutic vitamine seems to be especially abundant in fresh vegetables and in fruit juices," (p. 19.) Again (p. 95): "Professor Thompson has shown that the addition of a small amount of beef extract to the diet leads to an increase in weight both in men and animals, and to an increase in the retention of nitrogen in the body. Whether these results are to be ascribed solely to an improvement in digestion and absorption, or whether the beef extract contains some substance (? a vitamine) which exercises a specific effect upon metabolism, is uncertain, but at all events the experiments are highly interesting and important." P. 136: "It has been objected to margarine, that it may be deficient in vitamins, which are present in butter. To this it may be replied, that there is no proof that butter contains vitamins, and in any case, in a mixed diet, the matter is one of no importance."

In the opinion of the reviewer, the meager amount of additional material which has been inserted in the text in various places, does not at all serve to bring it adequately into touch with modern knowledge upon such topics as the physiology of digestion; diet for diabetics; the physiological effects of water-drinking in various amounts; recent studies in metabolism induced by experimental diets (e.g., with varying proportions of protein, with different kinds of proteins or amino-acids, or of mineral salts,

or with the effects of inanition); the physiological effects of different iron compounds found in foods and drugs, the variations in acidity or alkalinity of ash of foods; the physiological effects of alcohol; the nature of appetite and hunger; or such practical points as the composition of modern commercial bread. It is true that much of the recent work which we so greatly miss has been done by Americans, and naturally might not attract the attention of an English dietitian to the same extent, as in the case of a textbook published in this country. Yet it will be observed, that only a very small proportion of the references cited in the footnotes are dated much later than 1910; indeed, the greater number antedate 1900.

MINNA C. DENTON.

How To Cut Food Costs. By LENNA FRANCES COOPER. Battle Creek, Michigan: The Good Health Publishing Company, 1917, pp. 128.

The author's aim in writing this book is first, "to teach housewives and others charged with the task of supplying and preparing food, how they can best do this at the least money cost," and second, to explain what is meant by a "Balanced Ration" and how to provide it. The first chapter contains a simple and brief statement of the food requirements of the body together with a classification of the foodstuffs on the basis of their function in nutrition. In the following chapters the author takes up the relative value and money cost of these foods. There are tables giving the number of calories to be obtained for one cent from the cereals and breadstuffs, vegetables, fruits, meats and meat substitutes. These tables are based upon March, 1917, prices, but no mention is made of the place where the food was purchased. They show the relative cheapness of cereals over other foods, of bulk cereals over package, of dried fruits as compared to fresh. These comparisons of cost are all made on the basis of calories, although in the discussion, emphasis is put on the fact that milk, eggs, and meat, contain valuable "muscle form-

ing material" and that milk, whole cereals, and vegetables are valuable as "bone formers."

A table giving the calories contained in one pound of all the common food materials has been included in order that the housewife may herself determine the number of calories which she purchases for one cent. With the fluctuations in prices from year to year and from season to season this suggests a means by which the housewife may check up the relative cost and nutritive value of various foods. There is also additional valuable material in the form of economical menus which were served to six people during the month of March, 1917, at a cost of twenty-three and one-fourth cents per capita per day, together with a large number of low-cost recipes. The latter furnish suggestions for the substitution of milk, macaroni, and beans, for meat, and of cornmeal for wheat.

The author, in her discussion of food requirements, has made only general statements regarding the quantities of food which should be used. More specific information as to the desirable relative expenditures for milk, cereals, vegetables, and fruits, would have increased the value of the book greatly. There is also no mention made of the difference in the nutritive value of proteins from milk, meat, and eggs, and those from the cereals and legumes. In the light of Dr. McCollum's results from feeding beans to white rats it would seem that the value of legumes may be somewhat overestimated. The book is written from a vegetarian point of view.

The last two chapters contain a discussion of the rapid rise in the cost of food during the past two years, the various factors involved in the cost of foods, such as transportation, middlemen's profits, free delivery and waste, and ways in which some of these factors may be eliminated.

While the book is written primarily for housewives, it contains much material of practical value to teachers.

ELIZABETH W. MILLER,

School of Education, University of Chicago.

BOOKS RECEIVED

- Dressmaking.* By Jane Fales. New York: Charles Scribner's Sons, 1917, pp. 508. \$1.50. By mail of the Journal, \$1.63.
- The Effective Small Home.* By Lilian Bayliss Green. New York: Robert M. McBride and Company, 1917, pp. 194. \$1.50. By mail of the Journal, \$1.58.
- The Family Purse.* Boston: Seaver Howland Press. \$.25. (In form of envelopes for different disbursements.)
- Food Poisoning.* By Edwin Oakes Jordan. Chicago: University of Chicago Press, c1917, pp. 115. \$1.00. By mail of the Journal, \$1.05.
- The Four Epochs of Woman's Life.* By Anna M. Galbraith. Philadelphia: W. B. Saunders Company, ed. 3, 1917, pp. 296. \$1.50. By mail of the Journal, \$1.61.
- The Home Nurse's Handbook of Practical Nursing.* By Charlotte A. Aikens. Philadelphia: W. B. Saunders Company, 1917, pp. 303. \$1.50. By mail of the Journal, \$1.64.
- How to Avoid Infection.* By Charles V. Chapin. Cambridge, Mass.: Harvard University Press, 1917, pp. 85. \$.50. By mail of the Journal, \$.55. (Harvard Health Talks.)
- Household Manufactures in the United States 1640-1860; a Study in Industrial History.* By Rolla Milton Tryon. Chicago: University of Chicago Press, c1917, pp. 413. \$2.00. By mail of the Journal, \$2.10.
- Housing in Springfield, Illinois; A Study by the National Housing Association.* By John Ihlder. New York: Russell Sage Foundation, c1914, pp. 24. \$.15.
- Kitchenette Cookery.* By Anna Merritt East. Boston: Little, Brown and Company, 1917, pp. 112. \$1.00. By mail of the Journal, \$1.06.
- Meals for Five on \$6.00 a Week.* By Josephine L. Bessems. Elgin, Ill.: David C. Cook Publishing Company, 1916, pp. 28. \$.25.
- Personal Hygiene and Physical Training for Women.* By Anna M. Galbraith. Philadelphia: W. B. Saunders Company, ed. 2, 1916, pp. 393. \$2.25. By mail of the Journal, \$2.37.
- The Practical Cookbook.* By Margaret Willett Howard. Boston: Ginn and Company, 1917, pp. 152. \$.72. By mail of the Journal, \$.78.
- The Small Family Cookbook.* By Mary Denson Pretlow. New York: Robert M. McBride and Company, c1915, pp. 216. \$.85. By mail of the Journal, \$.92.
- Vocational Mathematics for Girls.* By William H. Dooley. New York: D. C. Heath and Company, c1917, pp. 369. \$1.28. By mail of the Journal, \$1.38.
- Women Workers and Society.* By Annie Marion MacLean. Chicago: A. C. McClurg and Company, 1916, pp. 135. \$.50. By mail of the Journal, \$.54.

PAMPHLETS RECEIVED

The following pamphlets are issued by Cornell University, Ithaca, N. Y.

- Cornell Reading Course for the Farm Home: Household Accounts.* By Edith Bradford, Lesson 110, November, 1916.
- Milk: A Cheap Food.* By Flora Rose, Lesson 3, January 1917.
- Planning the Home Kitchen.* By Helen B. Young, Lesson 108, July, 1916.
- Food Series. Waste of Meat in the Home—Pt. 2.* By Susanah Usher, Lesson 109, Oct. 1916.
- Short Cuts for the Home Dietitian.* By Miriam Birdseye, Lesson 112, Apr., 1917.

The following pamphlets are issued by the Iowa State College of Agriculture Ames, Iowa.

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NEWS FROM THE FIELD

American Home Economics Association Meeting. There were about 300 in attendance at the meeting of the A. H. E. A. held in Portland, Oregon, in connection with the N. E. A., July 10. Many of these were teachers from California, Washington, Oregon, and other adjoining states. Miss MacKay, the president of the Association, presided.

As many of the papers as possible will be printed in the JOURNAL, in order that all the members of the Association may share in the benefit of the meeting.

After the meeting many visited the Oregon Agricultural College and had several conferences there.

A Western Home Economics Association was formed, consisting of eleven states west of the Rocky Mountains, British Columbia, and Alaska. An Oregon branch was also formed. The list of the officers follows.

Officers of the Western Home Economics Association

President, Mrs. Ellen P. Dabney, Supervisor of Home Economics, Seattle Public Schools.

Vice-President, Miss Ellen M. Bartlett, Supervisor of Home Economics, San Francisco Public Schools.

Treasurer, Miss Demmon, Supervisor of Home Economics, Butte, Montana.

Secretary, Miss Ava B. Milam, Professor of Domestic Science, Oregon Agricultural College, Corvallis, Oregon.

Officers of the Oregon Branch

President, Miss Ava B. Milam, Professor of Domestic Science, Oregon Agricultural College, Corvallis, Oregon.

Vice-President, Miss Lucy Crawford, Instructor Girl's School of Trades, Portland, Oregon.

Secretary, Miss Edna Groves, Supervisor of Domestic Science, Portland Public Schools.

The Bowling Green Neighborhood Association, New York City, under the auspices of the Bureau of Welfare for School Children of the A. I. C. P., expects to take possession of a new building about the first of September. On the second floor will be located the offices, the waiting room, and three children's clinics,—general, nutrition, and dental. Exhibition cases will be placed in the waiting room in which will be shown food and other exhibits. One section of the nutrition clinic will be fitted up as a demonstration kitchen. Suggestions are desired with reference to the equipment of this clinic, particularly as to the type of utensils that have been found to serve best for such a purpose.

It is planned to keep the kitchen outfit very simple including in it such articles as would serve in the kitchens of the mothers coming to it.

University of Chicago. A lecture on Ida Noyes Hall, the new Women's Building, was given in July by Elizabeth E. Langley, Instructor in Manual Training. The general topic was the Architecture and Furnishings of a Modern College Home for Women.

In a series of public lectures on War Problems, Dr. Graham Taylor, president of the Chicago School of Civics and Philanthropy, spoke on Community Standards, and Mrs. Catherine M. Briggs, general superintendent of the United Charities of Chicago, discussed the question of Volunteer Service in Conserving the Home During War.

The Home Economics Department at Purdue University, in coöperation with the Department of Agricultural Extension, completed its second Food Conservation Short Course in July. The first was held June 18 to 23 and was arranged to give instruction to women wishing to train as

Emergency Food Workers. There were seventy in attendance including teachers, girls club supervisors, farmers institute workers, and other women who had had previous training in home economics. The program consisted of laboratory work in canning, and lectures on food conservation subjects. Mr. Farrell of the U. S. Department of Agriculture, was present and gave demonstrations on canning and drying of fruits and vegetables.

On July 9 the second week's course opened and this was arranged for the housekeepers who wished to know more about food conservation. The program consisted of demonstrations on canning and drying and on "war foods." Talks and round tables gave opportunity to discuss many problems along the lines of food substitution, war time menus, war time budgets, and similar subjects. Two hundred women attended this course.

Notes. At Winthrop College, Rock Hill, S. C., special classes were arranged for Club Women, July 9-21. Home economics and agriculture were among the subjects offered.

Beginning in 1917-18 all young women candidates for an academic degree in the Louisiana State University will be required to take two one-term courses in home economics.

Miss Sarah Louise Arnold, Dean of Simmons College, has been made a member of the State Board of Education of Massachusetts.

The Woman's Committee of the Council of National Defense has recently organized a Department of Food Production and Home Economics under the chairmanship of Mrs. Stanley McCormick. To secure harmonious working between the U. S. Department of Agriculture and this branch

of the Woman's Committee, Secretary Houston has assigned Miss Helen W. Atwater of the Office of Home Economics to coöperate with Mrs. McCormick's department, and she now divides her time between the two offices, serving as Executive Chairman of the Food Production and Home Economics Department of the Woman's Committee.

This department like most of the others of the Woman's Committee, is organized by states with a state chairman in charge, and local representatives working under her. It is in close touch with the Coöperative Extension work of the U. S. Dept. of Agriculture and the State Agricultural Colleges of the various states and also with the Food Administration. As its name implies, it expects to aid in the work of women in food conservation and in the other features of household economy which circumstances may render important.

Miss Grace Schermerhorn has been appointed Director of Cooking in the New York City public schools to succeed the late Mrs. Williams. Miss Schermerhorn has been for the past year Supervisor of Household Arts in the public schools, Long Beach, Cal.; for three years she was director of Practice Teaching in Household Arts at Iowa State College, Ames, Iowa. She is a graduate of Teachers College.

Miss Veta Franklin of Bellingham, Washington, is to succeed Miss Schermerhorn at Long Beach.

The Fifty-fifth meeting of the American Chemical Society will be held in Boston, Massachusetts, September 11-13. The Division of Biological Chemistry will hold its sessions on Wednesday and Thursday, and on Wednesday there will be a special program devoted to enzymes and their behavior. The headquarters of the Society will be at the Massachusetts Institute of Technology.

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TRAINING WOMEN TO EARN—A NATIONAL MOVEMENT¹

ALVIN E. DODD

Secretary National Society for the Promotion of Industrial Education

We all know that in Europe today, women are taking the place of men at the laboring oar of industry in many a factory and in many a shop, because the men are called to war. How soon a similar situation will be upon us no one can this day tell. But this we do know, that if war does come upon us, the rate at which the women will enter the occupations and industries in this country will be very greatly increased over the rate at which they have been entering industry during the past thirty years of peace.

The United States Census of 1910 shows steady increases in the number of women wage-earners and it shows that their work is not incidental as is commonly assumed. In 1880, 15 per cent of our girls and women were at work; in 1890, 17 per cent; in 1900, 19 per cent; and in 1910, 23 per cent. In the present year of 1916, it is without doubt true that one-fourth of the girls and women over 10 years of age are gainfully employed. The census further indicates that the length of time during which women remain in industry is not so brief as is commonly assumed. No one is surprised to learn that two million girls between 14 and 20 are at work, but we seldom hear of the million and more women past 45 who are earning their living, or of the four million and more in the prime of life who join hands with the girls' brigade on one side and, with the grandmothers' brigade on the other.

¹ Presented at the Ninth Annual Meeting of the American Home Economics Association, Ithaca, N. Y., 1916.

In the last thirty years, the number of women in commercial and business occupations has grown from 228,421 to 1,202,352 or almost fivefold. But the fact also remains that from 80 to 90 per cent of all girls and women are at some time in their lives homemakers, and that one girl or woman in every 2.8 is a wage earner points to the conclusion that any profitable scheme of education devised for girls must have these two ultimate aims in view, i.e., the making of homemakers and the making of wage-earners.

In addition to these two callings, both of which may be safely anticipated in the life of the average girl or woman, there is the responsibility of citizenship, proper group relations for which every girl and woman should have preparation.

Until these needs are fully met, and perhaps even then, provision must be made for those women who are already homemakers and desire to increase their present home efficiency, for those who are wage-earners and eager to enlarge their fields of usefulness, and for those who desire to know better their social relationships and duties.

The National Society for the Promotion of Industrial Education is primarily interested in furthering opportunities for vocational training for women who are entering the occupations, but at the same time it recognizes that every girl should have preparation for the varied duties of the home as a legitimate and integral part of her education; that this should be offered throughout the entire school course, both in elementary and in high schools; and that it should be considered a necessary part of a girl's general preparation for life, no matter what her particular calling might be.

The American Home Economics Association is primarily interested in furthering education for homemaking, but recognizes at the same time that every girl needs some special occupational skill beyond her general training for homemaking.

It is only by such skilled activities that a girl can worthily employ the time from leaving school until marriage. Only by worthy use of the time between school and marriage is a young woman kept in the unselfish and efficient habits which will make her a devoted and intelligent homemaker. Only by such skilled activities can a married woman without children give her powers full exercise. Only by such reserve skill can a married woman find financial security in reverses of widowhood, desertion, incapacity or incapability of her husband. By the discipline of such skilled service before marriage can the well-to-do woman be best

prepared to serve wisely as a civic or club worker in the second leisure of middle age.

Every community today should offer extension courses in practical arts to its women. There can and should be coöperation between the National Society and the American Home Economics Association in the establishment of evening courses other than trade extension work. Such courses can provide a great opportunity to the schools to stand back of the home and to gradually raise home standards among working people. Such instruction to be effective must be clear cut and specific and brought to bear directly on the actual experience of the student, comparable to the definite results expected and gained in the specific trade courses already developed in a number of large cities. This involves the setting up of definite administrative influences such as: (a) A careful selection of teachers on the basis of their practical knowledge of the subject to be taught; (b) the limiting of classes to groups of not more than fifteen; (c) the development of a series of short courses which admit of great variation and which can be adapted to meet the specific needs.

Such studies and the resulting pronouncements should be undertaken by a joint committee of the two associations.

How to determine what courses are most needed leads to the second possibility for coöperation between the two groups represented by our Societies. There are being made an increasing number of vocational surveys. These surveys are based on the idea that a gathering of facts about the schools of any community is necessary for an intelligent plan which will make more effective the educational work being done in that community. Pertinent facts about local industries and local conditions are absolutely necessary as a basis for any intelligent vocational program. To meet the special needs of the community, a program must be based on knowledge of these facts.

A course in home economics which will meet the needs of a city girl will differ from that which will meet the needs of the country girl. Home economics courses for a group of girls who have spent their day in "dipping chocolates" should differ from a course given to a group of high grade department store employees.

In both the Richmond and Minneapolis Surveys, made by the National Society, studies of the home worker, both paid and unpaid, were made. In Minneapolis this part of the Survey was under the charge of a committee of women representing the various interests and points of view, such as the public schools, visiting nurses committees, women's

clubs. A specialist in home economics from the University Agricultural Extension Division had charge of the field work and made the report which was submitted. In this work she was assisted by students of the University Home Economics Department and by others including some of the teachers in home economics in the public schools who were given permission to spend time in this study for the valuable information and understanding which such experience would bring. The chapter relating to this study in the Report of the Minneapolis Survey, is one of the most valuable in the entire survey, and is commended to home economics workers generally for its very definite bearing on the development of home economics and industrial courses for women.

We need to know a great deal more about women in industry than we do now. The number of women in industry is often quoted and the statement is frequently made that the working life of the women in industry is from three to five years. There are reasons to believe that the average is very much higher than this. We have no means of knowing from the United States Census figures whether the women who enter industry each year are coming in new and for the first time or whether they are returning for the second, third, or fourth time. We need to know more of how long these women have been in industry, during each period of their service, and whether a local survey would bring out many valuable facts along this line. Here is opportunity for coöperation in the appointment of a joint committee to determine what facts of this sort are needed and how they may be gathered.

The industrial conditions under which many work, and their relation to home economics, need to be carefully studied. Such studies would have important bearing on the content of home economics courses. Such information may be expected to make for a definiteness of aim and for standards of accomplishments which are greatly needed.

The Home Economics Association may be the means, not only of gathering much information, but may also be the means of carrying it into quarters where it is most needed. This may possibly be done: (a) through the Home Economics Clubs affiliated with the American Home Economics Association; (b) by devoting more space in the *Home Economics Journal* to a presentation of some of these industrial courses in their bearing on home economics.

The National Society in its past conventions has given much consideration to the question of what home economics training should be given as a part of vocational courses. Vocational education is develop-

ing rapidly. With the passage of the Smith-Hughes Bill, the American Home Economics Association might well devote one section meeting at its convention to a consideration of vocational education and its bearing on home economics training.

In this whole question of coöperation between these associations there is none so important and so full of possibilities for immediate results as effective work on the problem of how to secure adequately trained teachers and adequate state supervisors of home economics. A careful study and report of the certification and training of teachers and supervisors of home economics somewhat after the plan of a similar statement prepared by the National Society on vocational teachers, might be of very great influence in impressing the school administrators of the country with the training and experience and qualities which it is necessary to look for and to have if effective instructors are to be secured. In other words, the setting up of standards for teachers through an official pronouncement of the American Home Economics Association might be secured.

The putting into operation of the Smith-Lever Bill has brought many difficulties and as many of you well know there is serious danger of the funds being used in some places in ways which cannot possibly bring adequate return. It is unfortunate that the Smith-Lever Bill did not include stipulations which would safeguard to a somewhat greater extent both the standards of the work to be done and the expenditure of these public funds.

The Smith-Hughes Bill is a distinct advance in this respect, in that it not only very definitely stipulates the purposes for which money may be spent but it also makes the payment of national aid contingent upon the work done meeting the approval of the government authorities.

The Commission on Federal Aid to Vocational Education which drafted and recommended the Smith-Hughes Bill had this to say:

The problem of home economics training for the great mass of girls who spend their early years as wage-earners in stores, shops, and factories, is also one for serious consideration and investigation and one that has as yet hardly been touched although it is perhaps more important and far-reaching than any other. Especially needed are such studies as those relating to the purchase and care of clothing, the conservation of health and the maintenance of efficiency through proper food and exercise, the planning of personal and household budgets, the proper sanitation and ventilation of home and workroom

surroundings. Such studies as these and many others will be greatly needed in the development of part-time education for girls who are already at work and would also be highly valuable in developing courses in home economics for young housekeepers who have not had the opportunity for such training in our schools.

The American Home Economics Association has a Committee on Legislation. Some years ago the National Society adopted a declaration of principles and policies which should underlie any system of vocational education. The legislation which has been passed in all the States so far and legislation which has been brought before the Federal Government has been in large part based on these principles and policies. A similar statement on legislation dealing with home economics might well be undertaken by the Home Economics Association through its Committee on Legislation. Such legislation standards would relate very closely to vocational education legislation, and might well be the efforts of a joint committee.

In America there needs to be learned a lesson of effectiveness and one of the first steps in the learning of the lesson is to learn that we need to learn it. Both of our associations have taken the first step. The attendance at the annual conventions of each organization by a number of delegates representing the other association, the service on the Boards of Control of members of the other association and the participation in the programs have shown the possibilities of what we may learn and do together in advancing the cause of human effectiveness.

These are matters of value to the nation at large. They mean the enhancement of our greatest national resource, our men and our women. From this enhancement naturally arises the development of our national power and influence. Hence is our cause true patriotism. From it comes the best of preparedness, both for peace and war. As Secretary of Commerce Redfield stated, recently: "Trained producers and trained users are both safe and sane citizens, for the training to do involves the training to think, and the plea for preparedness and for 'safety first' is a call for education which enhances both the worker and the home."

MEDIUM PRICED LINENS FOR INSTITUTION AND HOME¹

MARY SCHENCK WOOLMAN

Specialist in Vocational Education, Boston, Massachusetts

It is not always easy for the general shopper to obtain full information on fabrics from going to the stores. Walking through the departments and looking casually about avails little, and the textile expert of the store is not easily procured, for his time is valuable.

The writer has been making a study for the Retail Trade Board of the Boston Chamber of Commerce on the way women are abusing the privileges given to them by the department and specialty stores, especially in the wrong use of the charge account, and in the returning, for insufficient reasons, goods taken out on approval, called the "return goods evil." Therefore, she has had entry into eighteen stores for special investigation and included with her other work, a study of linens as affected by the war. The plan of the work was the following:

To see, through the eyes of the department buyers, available, representative, medium priced linen towels and tablecloths which are recommended for institutions and homes; to know from what countries the most satisfactory linen is imported, and why it is considered good; to see grades of linen apt to be adulterated or weak; to know the lowest prices for really good wearing linen (this was for regular prices and not for short stock on the bargain counter); to make physical and chemical investigations of the linen chosen and purchased for illustration, that statements could be verified and information increased.

It is more difficult to wisely choose medium priced linen than the finer and more expensive grades, for substitutions for strong fiber and various finishes may be used to lower the price while maintaining the appearance. Shoppers for institutions as well as for the home are often lacking in ability to judge, and consequently buy towels and table linen which will not give satisfactory wear. Without training, the only safe procedure for them is to keep strictly to reliable firms rather than to be attracted by what seems to be better values at lower prices elsewhere. Reputable firms in this country are buying from reliable firms in Europe, and the heads of linen departments are very willing to tell the inquiring shopper the condition of the linens on their counters.

¹Presented at the Ninth Annual Meeting of the American Home Economics Association, Ithaca, N. Y., 1916.

We depend principally upon a few European countries for our stock of medium-priced linens. On account of the war the usual supply has almost ceased. Once in a while a consignment will come through unexpectedly. The former stock of linen is naturally decreasing, and the prices for it are rising steadily. Linen buyers say that as soon as the present goods are sold they will be unable to fill some orders and the stock on hand will be much higher in price. For illustration, the small, fine, Irish fringed napkins (tea napkins), usually sold for \$4.50 per dozen, were, shortly after the beginning of the war, \$6 a dozen, if they were found at all. There is now no hope of importing them, and the price for those that remain will be at least \$7.50 a dozen.

One result of this war shortage, for we must have household towels and table-cloths, is the use of cotton to take the place of linen. We are a cotton-growing country and produce flax for seed rather than for fiber. Consequently, we are increasing the manufacture of cotton towels and table-cloths although some towels and crash are being manufactured from our own flax, but not sufficient for the demand.

The question for us to decide, while linen can still be procured, is whether cotton toweling and table-cloths can take the place satisfactorily of the linen ones. Does the lower price of cotton offset the values of the higher priced linen? Can cotton be made as valuable for household purposes as linen? Let us compare the qualities of the two.

Cotton fiber is very short. It can be twisted and made strong, but the little fibers will protrude from the yarn or woven cloth. The fiber is full of oil and easily catches dust. Consequently, after constant use for a short time toweling made from cotton becomes grey and dull looking, requiring constant boiling to keep it sanitary. Cotton dries more slowly than linen, and as a result several towels are needed where two linen ones would serve.

When cotton tea-toweling is first used it seems almost as satisfactory as linen, for it is finished with a smooth, glistening surface; but this passes away in the laundry and the short fibers come off in specks and fluff and cling to the china or glass.

Cotton towels are less than one-half the price of linen at normal times. It is true that cotton toweling will sometimes wear longer than toweling made of poor flax, but it never will have as good qualities for housekeeping use.

Flax from the combing or hackling processes yields fibers of two lengths—one long and smooth, called “line” (the best linen is made from this), and the other short and rough, called “tow.” Toweling made chiefly of the line is the best, but medium priced towels are apt to have some tow in them, in the filling threads at least.

A reliable small linen towel would not cost less than 25 cents at normal times, while a cotton towel of the same size would run from 8 to 15 cents.

Linen is undoubtedly a more sanitary material for constant household use and worth the added price on account of its valuable properties.

Ireland, Scotland, and Germany are the countries we rely upon for our good medium-priced linens. For a given price there is little difference between them in the quality of the output. We also import fine goods from them, but Austria, Belgium, and France send in general only their finest linens to America.

The present study was on the towels and table linens of Ireland, Scotland, and Germany. Ireland uses Belgian yarn largely for its manufacture, though still continuing some growth of flax. At present cotton is being used there, as Belgian yarn cannot be procured. The Belgian yarn is noted for its fineness and strength, the River Lys being especially good for the retting of the flax whereby the fiber is released from the stalk. The extreme care which had been given to the growth, the well worked out rotation of crops, the close planting, and the way the women and children walk through the fields, often with bare feet, at the time of the springing of the flax to remove the weeds without bruising the tender shoots, tend to make the crop fine and the stalks straight and strong without branching.

Belgium produces good line, fitted for the manufacture of the finest toweling and table linen. The quality of Irish toweling and table linen is influenced by the use of the Belgian fiber or yarn. If you put your hand on an Irish towel and then on a Scotch one of the same price, there seems to be less body in the former, but the strength is about the same. The Scotch, in general, use the Belgian yarns less than do the Irish.

The better table linen in Ireland is still hand woven. There are many cottages in or near Belfast where hand looms are used in weaving the higher priced damasks. The medium priced cloths are woven by power looms.

Germany has obtained much of its flax from Russia, and the latter country produces strong, medium grade flax. Germany gives us an extremely good product, but one must have a care in selecting German medium priced linen, for some firms are anxious to get a market and therefore reproduce Irish, Scotch, and French table linen and towels at a lower price but not always quite so good. Germany produces attractive colored linens, but care is needed in the laundering or they will fade, for flax does not hold dye well without strong mordants.

Many housekeepers prefer to buy the German unbleached table cloths and bleach them for themselves. There is economy in this, for the chemical bleaching, used almost exclusively for the medium grades, weakens the fiber. An institution cannot always do this, however, for it takes too much grass to bleach out large amounts of linen. The Battle Creek Sanitarium, for example, has weekly from its baths alone 11,000 towels and huge numbers of table clothes and towels from dining rooms, bed rooms, and operating rooms. It would be hardly practical for a large institution to buy unbleached linen and bleach it out-of-doors unless it had large grass spaces.

Linen has always some sizing in it, for the yarn would become rough in the weaving if it were not sized. The difficulty comes when sizing is used to cover up imperfections, coarse weaving, or the use of cotton or tow. Good linen yarn is round and made of well twisted line. If the yarn is loosely twisted and flat, it will not wear so well. Tow is not so strong or smooth as the line.

Beetling is the usual process of manufacture in finishing linens. Heavy pressure by beating with hammers is thus brought to bear on the woven goods, and a glistening effect is the result. In good linen this quality is inherent, and, after washing, can be restored by pressure with heated irons. By having much sizing on goods made of tow or cotton, followed by beetling, the gloss is gained temporarily. Beetling flattens good yarn slightly. The condition to avoid is poorly spun, flat, rather thin yarn, heavily sized, the cloth loosely woven and light in weight, sized and beetled, so that it looks substantial and glistening. When it is laundered the dressing will gradually pass away, leaving the coarse, open mesh, which will not wear well.

The yarn in a good piece of linen will be even in strength. When some threads are strong and other threads weak the cloth will not wear satisfactorily.

The feel of good linen is smooth, cool, leathery, yet soft. The light from it is clear, but not too brilliant. It has weight as lifted in the hand, and is judged by its weight. When linen is stiff and creases easily it probably contains a good deal of sizing. If the finger nail is pressed against the cloth the sizing can be detected. Table cloths below \$1.25 a yard at normal times are not apt to be satisfactory in wear. A good double damask may be more expensive than the single, for the threads are double at least in the filling, but it is a more satisfactory investment. The pattern is more distinct on the wrong side, hence both sides of the cloth can be used. The pattern is in the warp threads and they look light against the background of filling on the right side. A close all-over pattern launders better than bands and plain twill alternating.

THE FOOD FACTS BUREAU OF BOSTON

"FOOD FACTS" in letters three feet high on a sign displayed in the windows of 69 Bedford Street strikes the eye of every pedestrian within visual range, and has for some days aroused considerable curiosity as to its significance. Closer approach reveals that this is an "Information Bureau and Directory of Food Facts." Behind this mysterious sign trained and enthusiastic women workers are rounding into shape a project which is designed to be a clearing house for all organizations working on food problems and a fountain of helpful information to every housewife, student or teacher of domestic economy, or any person in any way interested in practical, everyday questions of food economy, utilization, and conservation.

Practically all organizations with correlative interests in the city and state have signified their desire to coöperate with the Food Facts Bureau, and to participate in the benefits of it, and the institution promises to become a most important factor in peace times as well as war times. Representatives of some 75 organizations interested in food conservation and home economics met by invitation at the Bureau for a conference. Twenty-six organizations definitely allied themselves with it.

The purpose of the Bureau is to assemble, display, and facilitate the distribution of printed material on the subject of "Food Conservation; to catalogue agencies, and societies, in Massachusetts dealing with this problem; to coördinate the various separate agencies capable of giving specific information by the establishment of a clearing house, through which, without losing identity, they may coöperate; to organize a force of expert volunteers, women of training and experience, to validate, so far as is practicable, material collected by the Bureau; to issue from time to time, a bulletin called "Food Facts."

It will be seen from this that the Bureau in no way overlaps or duplicates the work of those organizations which are already doing splendid service in constructive work along the lines of lectures, demonstrations, and classes. Many of the questions which come to these organizations may be turned over to the Bureau for answer, greatly to the relief of these overworked centers, which in most cases have not the facilities for handling large numbers of inquiring visitors nor for maintaining a complete library and analytical catalogue of the literature involved.

When in full swing the Bureau hopes, for example, to be able to refer any suburbanite or out-of-town visitor to a definite person or organization working in his or her immediate locality, thus coördinating the scattered groups and associations working to the same end. It has been likened to the East Boston Tunnel. The tunnel isn't much to look at and for itself would never be sought out, but it serves a definite purpose in connecting Scollay Square and East Boston. Similarly the Food Facts Bureau serves as a channel of distribution of large collections of information.

Mrs. Herbert H. White is chairman of the Food Facts Committee which has direct charge of the Bureau and its operation, under the general administration of the War Service Committee of the Women's City Club, and the State Committee and City Committee on Food Conservation, of which the chairmen are respectively Mrs. James J. Storrow, Dean Sarah Louise Arnold of Simmons College, and Miss Mary A. Barr. The headquarters of the Food Facts Committee and the Bureau itself are familiar to many as the former location of the Laboratory Kitchen, and the large space permits the visitor freedom and quiet. It is a cool, well ventilated room attractively fitted with spacious tables, comfortable chairs, and a few plants and flowers set about in esthetically appealing Paul Revere Pottery products.

Miss Edith Guerrier who was lent by the Boston Public Library has been cataloguing and analyzing the collection of books, pamphlets, government publications, and every vehicle of authentic information available, so that any question arising may be answered in the most expeditious and comprehensive manner possible. The Boston Public Library has loaned temporarily such government publications as are now out of print or not yet received. This mass of material is being examined and validated by a corps of volunteer experts and every effort is made to insure to housekeepers and others in search of help and advice the best that there is in existence.

Publishers have almost unanimously assisted the Bureau by contributing copies of such publications as they control. Approximately 30 Agricultural Experiment Stations have furnished material and pamphlets. The Library Committee of the Simmons Club has given valuable service in the analytical cataloguing of the collection.

The Bureau is essentially a specialized library, but a very live one. While the field of active demonstrations will be left to the organizations now occupying it so efficiently, these will be invited to conduct demonstrations at the Bureau. There will be also constantly changing exhibits of timely interest and educational value, under the supervision of Miss Margaret McGill. The exhibits will be self explanatory and intended to convey a definite suggestion or idea to the observer. A series of Dr. Blood's food charts is hung on the wall of the rooms at 69 Bedford Street, and these are brought up to date weekly, as to current market prices and the comparative cost of foods of equal fuel value.

Current Food Facts are posted conspicuously on bulletin boards, in the form of newspaper clippings, magazine articles, and daily announcements arranged under classified headings, and every opportunity is afforded for studying these and other literature.

Arrangements are under way by which it is expected that the markets will coöperate with the Bureau in enabling it to publish daily the prices of seasonable products and the conditions of scarcity and over production. This one item would be of infinite value if generally used by housekeepers on their way to do their day's or week's marketing, and would help the markets as well as the buying public.

The Bureau has already coöperated to good purpose with Simmons College and the Public Safety Committee in getting before the public material on skim milk, a subject that has been much agitated of late. It is probable that the organization will have a large place in bringing about public benefits in this way.

Suggestions and information from housekeepers are earnestly desired, as emphasized by a conspicuous poster hung on the walls of the Bureau:

INFORMATION

We Need to Receive as
Well as to Give Information.

DO YOUR BIT

Send Us Any Food Facts of
Value That You May Have.

Such Material Will Not Be Lost.
It Will Be Filed, Catalogued, and
Displayed in Such a Manner That the

PUBLIC

Will Have the Benefit of It.

The Bureau wants housekeepers and others, men and women, to come in and give any suggestions of practical housekeeping value as well as to ask for such information, thus making it truly a clearing house for individuals and organizations alike. It is especially desired that those familiar with foreign methods of cooking and food conservation give such information to the Bureau in order that the public may learn other than the limited American methods.

Even before the Bureau was officially opened in September, the public was welcomed and urged to "Come in, look around and get acquainted," and incidentally to try out the effectiveness of the organization, by asking the questions that occurred to each one. By early autumn the Food Facts Bureau became so well known that no formal introduction was necessary.

ELLEN H. RICHARDS DAY FOR 1917

B. R. ANDREWS

Teachers College, New York City

Teachers of home economics in high schools, normal schools, and colleges, as well as others are asked to observe Richards Day, December 3, with a special program in which attention is given to the war and the

service which home economics can render in the war emergency. A prominent government official said recently that America has a resource in this war which was never available in earlier emergencies, namely, Home Economics as an organized movement, with its trained workers and its established facts, and that the services of Ellen H. Richards in establishing such an educational movement could now be seen in something of their real importance.

The JOURNAL suggests that on Richards Day this year, wherever possible, use be made of the pageant, "America's Gifts to the Old World," which is especially appropriate during the war in which the United States is allied, as President Wilson has suggested, with five-sixths of the civilized powers of the earth.

One central problem in the war situation, as all home economics workers appreciate, is the utilization of America's food supply to meet the needs of the Allies as well as ourselves. This pageant offers in a most interesting way a review of the distinctively American resources in food-stuffs. In connection with the pageant a statement might be made of the food situation, based upon the bulletin, "Ten Lessons on Food Conservation," published by the Food Administration, Washington, D. C., and this would make an observance of Richards Day that would be not only very interesting but helpful to home economics students in comprehending the world's situation. As we all know, the Food Administration is asking that American corn be given precedence in our diet, wherever possible, over wheat. The significance of corn as one of "America's Gifts to the World" would be most happily emphasized by a presentation of the pageant.

THE JOURNAL OF HOME ECONOMICS is prepared to furnish copies of the pageant. Funds raised through its presentation, it is suggested, may well be added to the Richards Fund. In this connection it is interesting to remember that the income from the Richards Fund is this year helping to support a graduate fellowship in home economics offered coöperatively by the University of Chicago, and that during all the years gifts to the Fund will aid in advancing the movement which Ellen Richards initiated for the scientific control of living conditions through home economics.

CORN MEAL MUSH

WALTER PROCTER JENNEY, PH.D.

The more general consumption of corn meal as food, means more of other cereals for export to feed Our Allies—it is a way to Win the War.

From the early settlements made by the English in America, down to the present day, practically only one way has been found to prepare corn meal mush, the "hasty pudding" of the Colonists. In the homes of the "Colonial Dames," corn meal was boiled for mush in practically the same way that is followed by their descendants in this year of Our Lord 1917. Even Sir Benjamin Thompson, Count Rumford, an eminent American scientist and philanthropist, who (about 1783-1795) in time of famine, sought to improve the condition of the industrial classes in Bavaria by teaching them to use corn meal for food, knew no other way. It is related that standing, paddle in hand, beside a kettle of boiling water, with corn meal brought from America, he gave the people a scientific demonstration of the way to make "hasty pudding."

No record appears to have been preserved as to how the early settlers first learned to make it. Possibly they were taught by the Indians, who, it is related, instructed the Pilgrims to put a fish in each hill when planting their corn—probably the earliest record of the employment in America of a fertilizer to stimulate the growth of a crop.

Corn meal was the principal food of the Colonists. The War for Independence was fought on "hasty pudding" and corn bread. And in the War of the Rebellion, corn meal constituted the main subsistence of the people of the South. It should be an important article of food of the American people in this Great World War we have set ourselves to win.

From the earliest tradition, the usual procedure in making corn meal mush has been to sift the meal slowly between the fingers in a thin stream into the boiling water, while stirring the contents of the kettle with a wooden paddle held in the other hand. About a teaspoonful of salt was added for each pint of water, but the meal was seldom measured, as the quantity required to give the mush the desired consistency, varied with each sample of meal, some meals swelling more than others. Commonly, one part of meal, by measure, was added to three and one-half to four and one-half parts of water. After all the meal was added, the kettle was stirred while boiling for a few minutes

and then pushed back from the fire, and the mush allowed to slowly cook for an hour, or more, stirring occasionally. In recent years, the cooking of the mush is often finished in a fireless cooker.

The quality of the mush is greatly influenced by the kind of corn from which the meal is made and the coarseness or fineness with which it is ground. Some manifest a preference for white, others for yellow corn. The product of the old fashioned water mills, where the shelled corn was ground just as it was received from the grower, without removing the germ, is especially favored. The fine flour-like meal, made by modern milling processes, is well adapted to mix with wheat flour, but affords an inferior quality of mush.

The water should be freshly boiled, otherwise the mush is deficient in flavor.

Slow cooking at a moderate heat, for a long time, is necessary to develop the full flavor of the mush. It does not seem possible to cook it too long, in fact, the longer it is cooked the better. Made in this way, with careful attention to every detail in its preparation, "hasty pudding" was simply delicious.

By accident the writer discovered an improved method of cooking corn meal for "hasty pudding" or mush, that seems to him much less difficult to carry out than the old way, and takes only about one-third the time. While engaged in preparing "hasty pudding" in "the good old way," he was called away just as the water commenced to boil, and turned off the flame. Returning in a few minutes, he started to add the meal, when the whole quantity accidentally fell into the water. To his surprise, the meal quickly diffused in the water, without clotting or forming lumps. This led to a study and the working out of the following method.

Procure the best corn meal obtainable, freshly ground and somewhat coarse. Probably the surest way to insure having meal of the best quality for mush and also for corn bread and cakes, is to select the finest corn of the new crop and grind it at home in a small grist mill, which can be purchased for a few dollars in the stores. The meal may be ground then coarse or fine, as desired, and in quantity to last for a day or for a number of days.

It is not necessary to use a double boiler, any aluminum or porcelain-lined vessel of suitable size may be employed. To make about one quart of mush put five cups of water in the vessel, add one level tablespoon of salt, and heat to boiling. As soon as the water boils remove

the vessel from the fire. Measure one cup of meal, level full, and at the expiration of three minutes, pour the meal into the water and stir until it is diffused; then replace the vessel upon the fire for four or five minutes and stir until the mush thickens enough to remain in suspension but at the same time is sufficiently fluid to pour cleanly out of the vessel. Pour into a deep porcelain-lined baking dish, provided with a closely fitting cover, and bake slowly in the oven for an hour or more.

After it is placed in the oven, the mush cooks slowly in an atmosphere of steam and gradually thickens, becoming sufficiently solid when cold to admit of its being slipped out of the dish in which it was baked. After taking from the oven remove the cover of the dish and drain off the water condensed upon the cover and upon the surface of the mush. This steam-baking swells the meal to the maximum volume, which will vary somewhat with different kinds of meal. Some water also evaporates in the baking. If preferred, the baking may be carried out in a fireless cooker, two or more heated soapstone disks being added to ensure the thorough cooking of the mush.

Impressed with the idea that it was the air present in the mush while cooking that developed the flavor, the writer tried the experiment of mixing air with the hot semi-fluid mush before placing it in the oven by whipping it with an ordinary rotary egg-beater until the mush increased somewhat in volume and became light and creamy. The experiment was a success. The lightness and creamy consistence of the mush, caused by the aeration, proved to be permanent, even after two hours baking in the oven, and the flavor seemed superior to that of the same meal cooked in the various ways described.

Corn meal mush is most often eaten cut in slices and fried, especially in cool weather. If it is to be used in this way it should be made somewhat stiffer, allowing 1 cup of meal to only 3 or 4 cups of water. It is served with fried salt pork, home-made sausage, or with broiled bacon, or is eaten with honey or syrup.

Mixed with milk, eggs, and shortening and made into balls and baked in the oven, it formed the "indian dumplings" of the early settlers in New England, and was eaten as a vegetable with meats served with thick "made gravy" such as roast goose, roast turkey, or roast pork.

In colonial days the supper of the children was generally a bowl of milk, with mush warm from the kettle in which it had been prepared. It was eaten for breakfast or lunch, either hot or cold, with molasses or with maple syrup.

Corn meal mush may be eaten with sour cream and with sour milk in all its forms—clabbered milk, curds and whey, and sour milk cheese, commonly known as “cottage cheese.”

For breakfast or dessert, mush is eaten cold with sugar and cream, and with fresh fruit, strawberries, raspberries, blackberries, sliced peaches, or apple sauce. For this purpose the mush is made with less salt. When fresh fruit is not obtainable, preserves or stewed dried fruit—prunes, apricots, or peaches may be substituted.

Something like one hundred and twenty-five years have rolled by since Count Rumford taught some hungry people in Europe how to make corn meal mush. While in England and France its use is as yet limited, compared with what it might be made, corn meal is extensively consumed in Italy. The Italians have made economy in food a special study, and eat corn meal mush, cut in slices and fried, as in America. They also use it as the foundation for “polenta,” placing a thick layer of slices of mush in the bottom of a deep baking dish, covering it with pieces of cold meat, and then prepare a sauce, using the gravy of the meat and adding tomatoes, red (chile) peppers, onions and a little garlic, with any sweet herbs, parsley, or celery at hand, not forgetting a slice of lemon. The sauce is heated to boiling, poured over the meat and the whole sprinkled generously with grated cheese and browned in the oven.

The people in many parts of America badly need instruction in cooking corn meal. A prominent scientist of Washington, remarked to the writer: “It is surprising, when one travels through some parts of this country, to find that where they raise the finest corn, they cook it so badly. Their corn bread comes to the table half cooked—it tastes raw—like chicken feed.”

Bad cooking is not confined to corn meal alone. Of course there are many delightful exceptions, but it must be confessed, that generally throughout this great country, good faithful missionary work in the preparation of food is greatly needed. If ever there was a country that needed intensive instruction in domestic economy it is America.

CORN FESTIVALS

ANNA BARROWS

Teachers College, New York City

Drama has been used from time immemorial to bring before the people some important truth, or enforce some practical lesson.

The Hebrew prophets were "past masters" in this method of teaching, and all through the Old Testament we find it illustrated. The celebration of the Harvest, common, not only to Jew and Greek, but to primitive peoples the world over, was really one kind of dramatic lesson, and even the New England Thanksgiving partook of this character, though perhaps the Pilgrims themselves would have been the last to realize it.

One of these old festivals rarely mentioned is Lammas Day or Lammas-tide, celebrated the first day of August. The dictionaries tell us that the name means the loaf-mass, bread-feast, or feast of first fruits, and that it is a contraction of two Anglo-Saxon words meaning loaf and feast. According to Chambers' "Book of Days" this was a survival of the four great pagan festivals of Britain, the others coming on the first days of November, February, and May. After the introduction of Christianity, the general observance of the day was continued in commemoration of the grain harvest, and a loaf was the offering at the church.

The American Indians held a "corn dance" to celebrate their ingathering. Why do not we today stimulate the use of corn by having corn festivals, that might well combine exhibits, a series of tableaux and readings, and a luncheon or supper?

At about the time of the Columbian Exposition in Chicago in 1893, considerable interest was shown in such affairs, probably because the Indian Corn was one of the gifts of the new world to the old. Even before that, there were Corn Palaces, and the decorative effects of corn were displayed in diverse fashion.

"Maize Festival" would be a more correct term than "Corn" to apply to such celebrations, since the latter word is applied to grains in general. The corn mentioned in the Bible was not the Indian corn.

If such a festival is planned and a large room or hall is available, shocks of corn may be used for decoration. The ripe ears may be fastened on the wall in the form of letters for mottoes, or rosettes, and vases may be filled with the spindels.

Traces or single ears of corn may decorate the table, and for place cards clean, smooth husks may be used. Even the dress of the guests might be made of corn husks, or bracelets and necklaces of the kernels may be worn.

The fitness of things should be carefully considered in planning a menu especially adapted to each occasion.

Before me is the menu of "The Feast of Mondamin" given in a little Maine village in 1888.

MENU

	Genesis XLII, 2	
	Boiled	
	Genesis XVIII, 8	
Corned Beef	Corned Tongue	Corned Shoulder of Pork
	Vegetables	
	Deuteronomy XVIII, 4	
Corn, Canned		Succotash
	Maize Dishes	
	II Samuel VI, 19	
Corn Johnny Cake	Corn Gems	Corn Bread
	Entrees	
	Joshua V, 11	
Corn, Hulled		Corn Mush
	Puddings	
	Zechariah IX, 17	
Baked Indian Pudding		Corn Starch
	Pastry	
	Corn Starch Pie	
	Dessert	
Corn Starch Cake		Corn Starch Blanc Mange
	Popped Corn in Cornucopias	Corn Balls

A similar entertainment has just been given in the same place.

For a meeting of the State Federation of Women's Clubs, or any smaller gathering of that sort, less substance and more garnish might be desirable than if it were being gotten ready for a convention of Boy Scouts.

With present prices of meats, we should use all our ingenuity to see if we cannot get up an attractive meal from corn and milk without the use of meats. Here are two menus:

Corn Chowder	Cream of Corn Soup
-----	-----
Samp, Lyonnaise, Tomato Sauce	Hominy Croquettes, Cheese Sauce
Boston Brown Bread	Corn Muffins
-----	-----
Succotash Salad	Salad of Canned Corn and Pimientos
Corn Wafers	Brown Bread Sandwiches
-----	-----
Blanc Mange (Cornstarch)	Baked Indian Pudding
Corn Syrup Sauce	or
	Brown Bread Ice Cream

This by no means exhausts the list of corn dishes. Canned corn may be scalloped, or made into fritters. Popcorn may be used in place of croutons in soup, or in corn balls. Crushed popcorn sifted through a frying basket or other coarse strainer may be used like nuts in little meringues or kisses, or sprinkled over frosting on cake. Toasted corn flakes may be used in the same way. Corn syrup may be used for sweetening some of the foods. Corn coffee, made by parching the cracked grains or, better still, from the browned crusts of Boston Brown Bread, may be substituted for the real coffee. This beverage was made for children and invalids long before the manufacturers thought of making it.

"Corn Meal as a Food and Ways of Using It." Farmers' Bulletin No. 565 of the United States Department of Agriculture, gives more than fifty tested recipes for the use of corn meal.

The southern part of our country has held more closely to the earlier methods of preparing corn for human food than any other section. There the white varieties are preferred, while the North calls for the yellow, and the regions toward Mexico where the Spanish tastes still influence are said to make more use of the darker shades even the purplish tints. In that region tamales and tortillas are favorite ways of using corn but there is no reason why they should not be prepared elsewhere.

The literary program for a Corn Festival might be as follows:

PROGRAM

1. Cornet Solo.
2. Reading: Whittier's Corn Song.
3. A brief essay written from the botanical standpoint. Sargent's Corn Plants would furnish material for this.
4. Reading: Hiawatha, illustrated by tableaux.
5. Quotations read by all who are present.
6. Song: Three Grains of Corn.
7. A short historical sketch.
8. Reading: Barlow's "Hasty Pudding," or "The Johnny Cake."
9. Reading: Whittier's "Husking," illustrated.
10. Chorus: Negro Melody. Going to the Shucking.

As might be expected no other poet has given us more corn poetry than Whittier.

There is his Corn Song, beginning:

Heap high the farmer's wintry board!
Heap high the golden corn!
No richer gift has autumn poured
From out her lavish horn!

His Song of the Pumpkin might be fitly introduced since pumpkins are always raised among the corn.

An illustration is easily arranged by representing the interior of a barn with a group of people among the corn for the huskers.

Bent low by autumn's wind and rain,
Through husks that dry and sere,
Unfolded from their ripened charge,
Shone out the yellow ear.

A religious service for Sunday School might fitly be planned for either sowing or harvest time. The story of the grains could be told reverently, and their importance in the life of man shown, especially the influence on the early history of this country, since the first settlers, both in Virginia and Massachusetts, owed their existence to Indian corn and to the Indians who showed them how to raise and how to cook it. Here is what Captain John Smith had to say about it:

With only six or seven companies I dropped down the river, and making signs to some Indians for what we wanted, they derided us as famished men, and offered us a handful of corn or a piece of bread in exchange for swords and muskets Presently they sent their ambassadors to me with corn, fish, and fowl, and whatsoever they had, in order to make their peace. Powhatan sent a message saying he would load my ship with corn if I would but send him some men to build him a house, give him a grindstone, some guns, a cock and hen, together with some coffee and beads.

One of the early New England colonists writes of the scarcity of their food and their dependence on corn:

When I could have meal and water and salt boiled together, it was so good who could wish better? The Indians did sometimes bring corn, and truck with us for clothing and knives.

Indian corn is the distinctive grain of this land. More attention could well be given to teaching something of its history to the children, and to the people of other countries who have come to live with us. This may best be done through something of the festival order.

Besides this, especially this year, every patriotic citizen should see to it that corn appears daily on the home table, and he should also endeavour to introduce it to friends who have neglected or never known its good qualities.

A CORN RHAPSODY

We shall call him Corn, the King of Plenty. There stands the American nonpareil of all the vegetable kingdom, eight, nine, ten feet high, towering far above all other annual plants, and serried into armies of defense against want, file by file and rank by rank, into battalions, divisions, and corps d'armes, a gallant and gaily caparisoned host covering a battlefield of 79,000,000 acres.

See him where he stands erect, proud of bearing, with his plume swaying grandly in the breeze and in the gladsome warmth of the sunshine which he loves. But as he stands in his strength and splendor he works and never sleeps. With his alchemy of long, tapering blades, he is extracting the wealth of oxygen and ozone from the air to combine with the mineral elements extracted by his sappers and miners from the generous soil on which he stands, and he is converting it all into gold. Springing from a once little kernel, growing into a miracle of beauty and strength, he is with all his dignity and finery not forgetting his destiny—the destiny not only of presenting to mankind the climax of vegetable bravery of apparel and form, but also the climax of creative capacity and execution. As he waxes in height, strength, and grace with his pennons and plumes, he adorns his frame with jewels—ear after ear of the generous fruitage of his body, which, ever attentive to beauty as to substance, he festoons with tassels of silk, and anon he enriches them with row after row in phalanxes of tens, hundreds, thousands of the richest gifts of Ceres to the earth.—*Henry Watterson.*

Indian maize hath, of certain, an excellent spirit of nourishment; but it must be thoroughly boyled, and made into a maize-creame, like a barley creame.—*Francis Bacon, in Natural History.*

THE JOHNNY-CAKE

Little Sarah she stood by her grandmother's bed,
"And what shall I get for your breakfast?" she said.
"You shall get me a johnny-cake: quickly go make it,
In one minute mix, and in two minutes bake it."

So Sarah she went to the closet to see
If yet any meal in the barrel might be.
The barrel had long time been empty as wind;
Not a speck of the bright yellow meal could she find.
But grandmother's johnny-cake—still she must make it,
In one minute mix, and in two minutes bake it.

She ran to the shop; but the shopkeeper said,
"I have none—you must go to the miller, fair maid;
For he has a mill, and he'll put the corn in it,
And grind you some nice yellow meal in a minute;
But run, or the johnny-cake, how will you make it,
In one minute mix, and in two minutes bake it?"

Then Sarah she ran every step of the way,
But the miller said, "No, I have no meal to-day;
Run, quick, to the cornfield, just over the hill,
And if any be there, you may fetch it to mill.
Run, run, or the johnny-cake, how will you make it,
In one minute mix, and in two minutes bake it?"

She ran to the cornfield—the corn had not grown,
Though the sun in the blue sky all pleasantly shone.
"Pretty sun," cried the maiden, "please make the corn grow."
"Pretty maid," the sun answered, "I cannot do so."
"Then grandmother's johnny-cake, how shall I make it,
In one minute mix, and in two minutes bake it?"

Then Sarah looked round, and she saw what was wanted;
The corn could not grow, for no corn had been planted.
She asked of the farmer to sow her some grain,
But the farmer he laughed till his sides ached again.
"Ho! ho! for the johnny-cake,—how can you make it,
In one minute mix, and in two minutes bake it?"

The farmer he laughed, and he laughed out aloud,—
"And how can I plant till the earth has been ploughed?
Run, run to the ploughman, and bring him with speed;
He'll plough up the ground, and I'll fill it with seed."
Away, then, ran Sarah, still hoping to make it,
In one minute mix, and in two minutes bake it.

The ploughman he ploughed, and the grain it was sown,
And the sun shed his rays till the corn was all grown.
It was ground at the mill, and again in her bed
These words to poor Sarah the grandmother said:
"You shall get me a johnny-cake—quickly go make it,
In one minute mix, and in two minutes bake it."

THE HASTY PUDDING

Some tawny Ceres, goddess of her days,
First learned with stones to crack the well-dried maize,
Through the rough sieve to shake the golden shower,
In boiling water stir the yellow flour;
The yellow flour bestrewed and stirr'd with haste,
Swells in the flood and thickens to a paste,
Then puffs and wallops, rises to the brim,
Drinks the dry knobs that on the surface swim;
The knobs at last the busy ladle breaks,
And the whole mass its true consistence takes.

Delicious grain! whatever form it take,
To roast or boil, to smother or to bake,
In every dish 'tis welcome still to me,
But most, my Hasty Pudding, most in thee.

JOEL BARLOW.

The Food Conservation Section of the United States Food Administration is about to issue a Bulletin of instructions and suggestions to Librarians in order that they may coöperate with the Administration in placing before the people of the United States the ways in which we at home may help win the War. This bulletin is prefaced by the following letter:

To the Librarians of the United States:

Libraries are so organized as to get in touch with ALL THE PEOPLE, rich and poor, young and old. You librarians are many of you doing your "bit" along the line of food conservation. To encourage those already at work and to spur to endeavor those who are letting the side of food conservation go in their complete absorption in other things, the Food Administration will establish with you a direct communication through a series of monthly "Food News Notes for Libraries," which will enable you to know the food fact to be stressed, and will give you suggestions as to lists of books and pamphlets and other usable material.

We ask your loyal support and we know that you will give it.

TWO MESSAGES FROM THE FOOD ADMINISTRATION

We have received a request from the French Government that we allow them to export from the United States 100,000 tons of sugar within a month, and probably more at a later period.

Our own situation is that we have just sufficient sugar to maintain our normal consumption until the first of January, when the new West Indian crop becomes available to all.

Our consumption is at the rate of 90 pounds per person per year—a little under 4 ounces per day per person.

The French people are on a ration of sugar equal to only 21 pounds per person per year—or at the rate of less than one single ounce per day per person—a little more than the weight of a silver dollar each day. The English and Italian rations are also not over 1 ounce per day.

The French people will be entirely without sugar for over two months if we refuse to part with enough from our stocks to keep them supplied with even this small allowance, as it is not available from any other quarter.

Sugar even to a greater amount than the French ration is a human necessity. If our people will reduce by one-third their purchases and consumption of candy and of sugar for other uses than preserving fruit, with which we do not wish to interfere, we can save the French situation.

In the interest of the French people, and of the loyalty we owe them to divide our food in the maintenance of our common cause, I ask the American people to do this. It is unthinkable that we refuse their request.

[SIGNED] HERBERT HOOVER.

The week of October 21 to 28 has been selected for a nation-wide campaign to complete the enrollment of our forces in conservation of our food supply.

The harvest is now in hand, and we can measure the world's food resources. The available supplies this harvest year are less than last year; the demand upon us is greater than last year, and from the last harvest we exported more than we could really afford. We can only meet the call upon us next year by savings and by substitution of commodities which cannot be transported.

The Allies are our first line of defense. They must be fed, and food will win the war. All Europe is on rations or restricted supplies. Only

in our own country is each one permitted to judge for himself the duty he owes his country in food consumption, although the world depends upon us to guard and provide its food supply.

This is a duty of necessity, humanity, and honor. As a free people we have elected to discharge this duty, not under autocratic decree but without other restraint than the guidance of individual conscience. On the success of this unprecedented adventure in democracy will largely stake the issue of the war.

We are asking every householder, every hotel, restaurant, and dealer in foodstuffs in the nation to become a member of the Food Administration for conservation, and to pledge themselves to follow, insofar as circumstances permit, the suggestions that will be offered from time to time as to measures of food savings.

For us there is no threat of privation. We wish only that our people should eat plenty, but wisely and without waste. Wisdom in eating is to make possible such adjustments in our food consumption, shipping and war necessities as will allow us to fulfill our duty in exports to our Allies. By elimination of waste we serve ourselves economically and morally.

I therefore appeal to the churches and to the schools for their assistance in this crusade; to all the organizations for defense, local and national; to all the agencies, commercial, social and civic, that they join the Administration in this work for the fundamental safety of the Nation.

[SIGNED] HERBERT HOOVER.

The scarcity of leather has led the shoe repairers of the United States, who are organized in over 80 associations, to advocate the use of rubber heels. Leather heels have risen in price so that the repairmen have to charge 50 per cent more than they did before the war, but rubber soles and heels show practically no advance in price, and they have the advantage that they can be put onto shoes by moderately skilled labor.

Weekly Bulletin, Food Administration.

FOR THE HOMEMAKER

DEMONSTRATING IN AND TO THE HOME

A. C. TRUE

Director, States Relations Service

By the time this magazine is published, the Department of Agriculture hopes to have increased its force of women county agents and women home demonstration agents to such an extent that their services will be available to the majority of the communities of the United States. This is not the announcement of a new organization; it is merely the development of work which began in 1910 with the organization of canning clubs in three counties in Virginia and one in South Carolina. Ever since the declaration of the existence of a state of war, the Department has been planning the development of this work so as to bring the information and experience of the Department, through trained deputies, to the women of America.

It is vital to the success of this movement that the readers of the great women's magazines of the United States should understand the educational system which the Department of Agriculture has been building up during the last seven years. It is probably news to most women that early in the summer there were over 500 home demonstration agents and an enrollment in canning clubs of approximately 100,000 women and girls. In these emergency days, when the work of women is so important to the safety of the country, enrollments have multiplied by the thousands and our experts estimate that during 1917 there will be ten times as many girls and women carrying on some phase of the home demonstration work as there were in 1916. This will make an army of about a million with trained leaders enough to guarantee efficiency as well as success throughout the ranks.

The history of the home demonstration work has been a natural process of development. The county agents have had the girls and women make their demonstrations with fundamentals and necessities. They started with vegetables and fruits; later they took up work with

bread and meat; soon they began to use milk and butter. All along incidental things were interwoven and incidental instruction was given. Canning, preserving, brining, curing and drying are but incidental processes in the campaign of saving food. Instead of academic lessons in sewing the club members were taught to make their own caps, aprons, uniforms, towels and other things necessary to the work in hand. Time and labor saving devices were bought as the occasion arose. Thousands of fireless cookers were made to utilize the products put in the pantries by the girls in connection with the chicken, eggs and meats being studied by the women and the best ways of utilizing these products so as to insure a nutritious, healthful, and economical diet are also being taught. Lessons and lectures on sanitation have been found to be ineffective compared with showing the necessity for cleanliness in putting up nice packs of vegetables and fruits, and in making high-class butter and cheese. Sanitation is learned by creating a demand and showing a necessity for it. More fly traps and fly swatters have been made, more doors and windows have been screened and more water works established in order to aid the club girl and her mother in making their community a simple object lesson in saving food than could possibly have been done in any other way.

The Department contemplates taking up this same kind of work with the city women. Although the club members in the cities may not be able to produce foods in such large quantities as those in the rural districts, they have greater opportunities for saving, collecting, marketing, and preparing foods. In the city work it is expected that organized bodies of women will be used as in the county work, and that the method of getting demonstration done in the homes will have a permanent place in this new line of work.

The Department urges the women of the United States to inform themselves as to the home demonstration work which is about to be so rapidly extended, that, working together with the Federal Government, they may successfully meet not only this emergency, but build better and happier households for the coming year.

If you do not know who your county agent is or whether you have a county agent, get in touch with the Director of the Extension Service at the State Agricultural College. He will be able to put you on the road to cooperation along the lines suggested.

CLUB PROGRAMS IN WAR TIME

HELEN LOUISE JOHNSON

During this past summer, ever since war was declared on April 6, the women of the country have been lending their intelligent aid, and experience in organizing, to certain tasks seemingly outside the special field of club work. The Woman's Committee of the Council of National Defense has been organizing its machinery. The American Red Cross has been increasing its membership from a comparatively few to enormous numbers in these few months. Many new organizations have sprung up in spite of the present day belief that there is waste in competition and that consolidation of interests makes for a saving of every resource.

In many of these tasks club women have been the most sought for and efficient workers, because their training has been along the lines required in these seemingly new endeavors; and, because they have been engrossed and occupied in war service, there has been an ungrounded fear that club work must suffer.

It is ungrounded for two reasons: First, because war service work, except in two particulars, differs not in kind but in intensity from the interests, topics, and programs that held and vitalized clubs before the war. Second, because the women of the clubs of both State and General Federation know the power and efficiency of organized effort, and realize that to loosen the bonds of their organizations means to lessen the value of their service at this time.

Their programs will differ from those of a few years since, and yet if the club women are wise they will not let them go too far away from the realities of life,—those things which make for permanent good, for beauty, for truth, and for the growth of the spirit. Art and music and literature must be cherished today as never before, that life itself may be kept sweet and true at its source. To allow the materialism of war to blot out or lessen our love of life at its best, would be to sacrifice a great factor in the moral renovation which should follow a war into which this country has entered for the sake of its ideals.

The club movement as it is understood today, began almost directly after the close of the Civil War. It had its inception when new industrial activities were making unprecedented changes in our social world; when new duties and hitherto untried civic responsibilities were thrust upon women; when the value of child life was claiming new

recognition, and public health measures were forced upon a reawakened country.

Today there is another, not a new but the old, insistent call to service. Much has been achieved for both men and women since Emma Willard and Mary Lyon dared to ask adequate educational opportunities for the daughters of mothers as well as for their sons. The progress of the bloodless revolution for the physical and intellectual liberty of women has moved with great rapidity since the Woman's Christian Temperance Union and the Woman's Suffrage Association formed the first groups of pioneer workers with a world wide affiliation for a common purpose.

Women now work side by side with men. They are found adequate and ready to fill the spaces in the ranks of the industrial army when the call to arms has come. They are helping, aiding, giving service everywhere and, just because they are, the club movement will receive new life, a new impetus, for it is needed more than ever before, because in times of war, even more than in times of peace, every possible means should be employed for the safe-guarding of the home, and all that the home means.

Horatio Dresser has told us that the movement in behalf of efficiency means an intelligent effort to provide for individual work under conditions more favorable for all concerned. So wherever there is the most complete coöperation in an organization there is the greatest efficiency. A mere system of organization does not necessarily mean efficiency. Into that machinery must be infused a spirit sufficiently great to result in disinterested, unselfish service, a spirit which compels the putting aside of personal ambition for individual or single club recognition for the sake of the work to be done. Coöperation means sharing. It indicates the working together for a common aim. It demands a giving as well as a taking from both sides. And this is the kind of work and service club work has taught women to do.

Again new industries are opening to women. Again new kinds of activities are pressing their needs upon a busy world. Again new duties and further civic responsibilities are being thrust upon women. Again is there need of safeguarding the home and its interests; of increased effort toward public health and public safety measures. Again little children must be cherished and cared for physically and intellectually so that they may become the nation's reliance, its true wealth in the years to come.

Conservation has become the slogan, the watchword of the day. If we are not careful we may forget that it refers to anything but food. Yet all our resources should be preserved from decay, loss, or injury, and this means that we must not alone continue to work for the preservation of our great national parks in all their beauty, for waterways, for forests and birds and trees, but that the future of the race to use and enjoy these should also be assured.

We cannot afford to have women taken from the home into industry until the last alternative has been tried. We cannot afford to have happy children transformed into tired, dull eyed, hopeless, stupid, or vicious young people. We cannot afford to let down by a single inch the all too insufficient bars we have erected about the labor of women and children, nor consent to any measure which lessens the value of a food material or may unduly increase its price. The future of a nation is at stake. The womanhood of women, the childhood of children must be kept from direct or insidious attack as we are striving to protect the manhood of men.

So now we are planning club programs based on this great idea of conservation of life, and this means that we cannot well leave out the work of any one of the eleven departments. All are needed. A great war program can be built upon and from them, stimulating, inspiring, and helpful.

The majority of clubs have weekly meetings from the first of October to the first of June. This gives thirty weeks in which to study and work for the conservation of our resources, material, physical, intellectual, and spiritual.

In order to mark real accomplishment it would be wisdom to select three special lines of work, using the work of the other departments to strengthen, amplify, widen and beautify these. Because of the sorrows, the perils, the hardships, and the privations of war, it will be necessary in every possible way to guard against the lowering of tone in the ordinary community, and here the music and literature departments should be of the greatest help.

Community singing needs to be promoted. Community gatherings where joy and happiness can be made the key note, and where the right kind of fun for young people, and the right kind of entertainment for older ones are provided and enjoyed.

This should be one of the lines of work undertaken and promoted by the clubs, for preventive measures are much more intelligent, more constructive, and cost less than curative ones.

The second should be linked with what we have called industrial and social conditions, a work that must broaden its scope and closely coordinate its activities with those of other departments,—the conservation, civics, education, home economics, public health, and, above all, legislation. Welfare as an economic quantity must be taught and preached to every one in order that the welfare of all may be conserved.

Mr. Creel has said:

For the last generation, in our legislation, in our education, and in our social and philanthropic work we have been trying increasingly to make the nation make the most of itself. We have been bettering the conditions of labor and of living; by law and by private effort we have succeeded in maintaining an increasingly high standard of health and efficiency. We have been experimenting in education, adapting our school machinery and methods to the newer industrial conditions and the modes of living and earning a living that they have forced upon our children. Our bureaus of public health, our labor laws, and our charitable organizations have combined to reduce the ravages of disease, fatigue, and unhealthful surroundings both in the home and working life of the poor.

The first impulse after war was declared was to cast all one's effort and enthusiasm into work that had an immediate and obvious military bearing; to regard reconstructive activities as luxuries that must wait for their continuance until war was over. But these protective and conserving agencies are peculiarly necessary in war time when increased pressure in every department of life and industry tends to throw off the safeguards it has taken a generation to achieve. One of the most important branches of military science is devoted to keeping the soldier at the maximum of vitality. It is no less imperative to keep the civilian corps at the same pitch of effectiveness. The conserving and constructive agencies of peace, whether in the form of labor legislation, education, or social work, instead of being abandoned, should be redoubled in their efforts and, so far as conditions will permit, broadened in their scope.

Here is the reason for renewed efforts in the lines of work clubs already have been pursuing.

The education department has an enormous task before it, not alone because immediate problems are presented, but because of the necessary changes war is already forcing upon our time worn, in some cases almost obsolete, curricula. The schools and colleges must be kept open. There is extreme need for the best trained men and women, the experts in every technical field. Our industrial development will be irremediably handicapped if our technical forces are not constantly

fed. Therefore the elementary and high schools must be made more, not less efficient, for these are the feeders for the more advanced tasks, and from them also without further training must be sent out classes of young men and women to fill the clerical and routine positions left vacant by the draft. If there is the slightest let down in our educational standards and requirements we shall find ourselves in a few years with a civilian army of incompetents.

Child welfare work, public health work, and home economics in its broadest interpretation, all these are of paramount importance. Programs should be simplified and directed toward a general purpose which may well be that voiced by the General Federation for its war service work,—“to prevent the disintegration of the home and the lowering of standards of living.”

The food conservation movement has already been taken up by the clubs in class work, lectures, demonstrations, and study. But all this should be coördinated so that individual effort will not be lost and the clubs will strengthen their organization. If women do not realize that their strength lies in the community work they are able to do by the very fact of an already existing organization, they may find their work dissipated through other less effective and far reaching channels.

Form your club programs with certain definite purposes in view and then use your facilities, your knowledge, your training, your experience, and organization to the utmost in performing the service which has been voiced as the great purpose of federated women today—“conservation of life, of liberty and of happiness; conservation of child life, of womanhood, of civic and national integrity in matters of public and private import; conservation of the best and highest functions of womanhood which shall make her in truth the conserver of all that is best in our advancing civilization, preserver of all that is good in the civilization of the past, and helpmeet in the daily battle of life which is constantly going on.”

This then should form the basis of club programs for war time.

"EAT WISELY AND WELL"

EAT AND GROW FAT

Find out how many calories you need per day to maintain your present weight.

To gain in weight you must eat food yielding a larger number of calories than are required for maintenance.

It is not necessary to increase your protein intake.

Select concentrated rather than bulky foods; eat fats, milk, sugar, breads, starchy vegetables, etc.

<i>Choose:</i>	<i>A serving will give you about: calories</i>
Cream soups.....	200
Baked beans.....	200
Potatoes, white.....	150
Potatoes, sweet.....	200
Succotash.....	150
Carrots.....	75
Preserved fruits.....	125
Pastry.....	300
Ice cream.....	200
Cake.....	200
Cream, per cup (18 per cent fat).....	400

EAT AND GROW THIN

Find out how many calories you need per day to maintain your present weight.

Your protein requirement will be about 10 per cent of this amount.

To lose weight with safety you must eat food yielding fewer calories than the number required for maintenance, taking the full amount of protein.

It is perfectly safe to take 500 calories a day less than your maintenance requirement.

In addition to the protein foods—meat, eggs, beans, or cheese—select bulky rather than concentrated foods.

<i>Choose:</i>	<i>A serving will give you about: calories</i>
Clear soups.....	20
Cabbage.....	25
Spinach.....	40
Celery.....	10
Lettuce.....	10
Tomatoes.....	20
Fresh fruits.....	30-50
Lemon jelly.....	100
Ices.....	100
Coffee jelly.....	40

—Used by permission of the University of Minnesota.

CORN MEAL RECIPES

FROM VARIOUS SOURCES, BUT ALL "TRIED AND TRUE"

SPOON CORN BREAD

1 cup white cornmeal
2 cups water
2 eggs

1 cup milk
1 tablespoon fat
2 teaspoons salt

Mix cornmeal and water, and bring slowly to boiling point. Cool five minutes. Add eggs, well beaten, and other ingredients. Beat thoroughly and bake in a well greased pan twenty-five minutes in a hot oven. Serve from the same dish with a spoon.

(U. S. Farmers' Bulletin.)

OWENDAW

Boil 1 pint of hominy grits with 3 pints of salted water until mixture thickens, then set on back of stove and cook slowly until done, about half an hour. While hot mix in 1 large spoonful fat and 3 eggs beaten very light; next add 1 pint of milk, and lastly 1 pint of cornmeal. The batter should be the consistency of rich boiled custard. If too thick add milk. Bake with good deal heat at bottom until the batter is set. Serve with spoon from dish. This is a soft breakfast bread and a South Carolina specialty.

(MRS. J. C. WITHERSPOON.)

CORN PONE

2 cups white cornmeal
1 teaspoon salt
 $\frac{1}{2}$ teaspoon soda

$1\frac{1}{2}$ cups buttermilk
2 tablespoons melted fat

Sift meal, salt, and soda together, stir in the buttermilk; add the melted fat and beat until smooth. Wet the hands in cold water and shape the mixture into small pones. Brush a griddle or pan over with melted fat, and let get smoking hot, then place the pones on it. Bake in a moderately hot oven until thoroughly done and brown.

(CECILIA DE NELLOTTZ.)

BAKED INDIAN PUDDING

1 quart milk
 $\frac{1}{2}$ cup corn meal
1 teaspoon salt

1 teaspoon ginger
 $\frac{1}{2}$ cup molasses

Scald the milk, and pour over meal and cook twenty minutes in a double boiler. Add salt, ginger and molasses. Pour into a greased baking dish and cook in a moderate oven until firm, about three hours.

(Teachers College.)

BAKED INDIAN AND APPLE PUDDING

1 pint milk	$\frac{1}{2}$ teaspoon ginger
$\frac{1}{4}$ cup cornmeal	$\frac{1}{4}$ cup molasses
$\frac{1}{2}$ teaspoon salt	1 apple

Sift cornmeal slowly into the scalded milk, stirring constantly. Cook in double boiler thirty minutes, stirring occasionally. Add salt, ginger, and molasses. Put into greased baking dish and bake 1 hour in a slow oven, stirring occasionally. Slice apple and stir into pudding. Bake until apples are tender. (Teachers College.)

THE RED CROSS

The Red Cross Commissioner in France has cabled for 1,500,000 each of sweaters, mufflers, mittens, and socks, and the Woman's Bureau has issued directions for making these according to patterns most desired. In order that they may be uniform the Red Cross Supply Service has had knitting needles made in the correct sizes to be called Red Cross needles Nos. 1, 2, and 3. No. 1 is as large as a No. 10 steel needle, as the socks wanted are heavy golf socks. Many women in knitting the socks are ignoring the fact that the directions call for these large needles and heavy 4 ply 10's yarn, and are making socks that are too small, and not sufficiently heavy for the trenches. The sock given in the circular is the one the Canadians have found most successful, and while there are many other good directions for knitting socks, those knitted for France can hardly be too heavy, as the cold will probably be intense.

The Woman's Bureau of the Red Cross has issued a circular (A R C 404) giving Suggestions for Christmas Packets For Our Men at Home and Abroad. Lists of articles are named and careful directions given for packing.

To correct some misunderstandings the Red Cross makes the following announcement.

The Red Cross has an absolute rule about parties and entertainments given for its benefit. No Red Cross emblem or name can be used in announcements or advertisements of such affairs unless the entire proceeds are to be devoted to the Red Cross. The *entire* proceeds, not net or half.

Red Cross uniforms at such entertainments must not be worn except by those members of the Red Cross who are also authorized members of one of the regular uniformed Red Cross corps.

EDITORIAL

Food for France Fund. Many people have been asking for an opportunity to give food products to the soldiers, but up to this time there has no way been found to take these homemade things directly to the men in the trenches. Now the Food for France Fund is asking for the following products:

LIST OF FOODS NEEDED

Butter in Tins	Canned Vegetables	Noodles
Meat Juice	(Peas, Beans, Tomatoes, etc).	Vermicelli
Cocoa	Animal Fats	Split Peas
Green Coffee	Oil	Dried Fruits
Dried Vegetables	Canned Hams	Prunes
Chocolate	Condensed Milk	Rice
Dried Chicory	Salted and Smoked	Lard
Preserves	Bacon	Canned Salmon
Dried Beans and Peas	Macaroni	Sugar
Flours		Tapioca

Note: If you wish to give anything not mentioned, please advise.

Housekeepers who have a little time to use in this way may send their products directly to this Fund, and so reach the soldiers whom they want to help. This is a chance for personal service that has been sought by many who have time and surplus material, and who may now carry out the plan which they themselves have suggested. Why could not home economics students have old-fashioned apple paring bees, or get-together groups for drying fruit? Any who do not wish to send the food may send instead money to purchase it.

The Committee of the Food For France Fund guarantee that the money you donate will be spent entirely for foodstuffs, with no reservation for any form of commission or executive or running expense. The kinds of foods purchased will be determined always by cable instructions as to immediate needs direct from Minister Godart's department. These goods will be shipped by the most direct channels to the Service de Santé in Paris, from where they will be immediately distributed to the neediest hospitals. A member of our American Committee consults with the Service de Santé in Paris.

Our appeal does not conflict with the work of any other Committee sending food to France, as we supply through direct official channels the military hospitals.

Carita Spencer, *Chairman*, 10 East 58th Street, New York, N. Y., *Appointed Delegate Extraordinary by Minister Justin Godart, Under-Secretary of State and Head of the French Service de Santé.*

Checks payable to Alexander J. Hemphill, *Treasurer*, Food for France Fund, 10 East 58th Street, New York.

ANNOUNCEMENTS

Members of the American Home Economics Association are invited to attend the eighth annual meeting of the American Association for Study and Prevention of Infant Mortality to be held at the Jefferson Hotel, Richmond, Va., October 15 to 17, 1917.

The program has been arranged with special reference to war needs. Some of the subjects that are scheduled for discussion include:

How the Pediatrician and the Obstetrician can Coöperate in Reducing the Mortality in the First Month of Life. Prenatal Care.

Care of Children of Pre-School Age.

Birth Registration: Registration and Certification from the Viewpoint of War's Demands.

Definite War Programs for the Reduction of Infant Mortality.

Special Problems of Obstetrical and Infant Care in Rural Communities in War Time.

Red Cross Town and Country Nursing Service for Infant and Maternal Welfare.

Problems in Nursing and Social Work that have arisen in connection with infant welfare work, and the way they are being solved.

Public School Education for the Prevention of Infant Mortality.

(1) Possibilities and limitations of elementary school instruction in the care of infants.

(2) Extension courses in public schools for adult women in the care and feeding of children.

(3) Education of college and university women for giving instruction in the care of the health of mothers and children.

Venereal Disease and Infant Mortality: Prevention of Venereal Disease as a War Measure.

Programs and other information in regard to the meeting can be secured from the Executive Secretary, Miss Gertrude B. Knipp, 1211 Cathedral Street, Baltimore, Md.

The American Public Health Association has changed the place of its annual meeting from New Orleans to Washington, D. C. The tentative dates are October 17 to 20, immediately following the meeting noted above. The central theme of the meeting will be the welfare of the soldiers, sailors, and civilians in time of war. Programs will soon be available, and may be obtained from the Acting Secretary, Mr. A. W. Hedrick, 126 Massachusetts Avenue, Boston, Mass.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Vocational Mathematics for Girls. By WILLIAM H. DOOLEY. New York: D. C. Heath and Company, 1917, pp. 369. \$1.28. By mail of the Journal, \$1.38.

To the teacher of home economics, the appearance of a book devoted to vocational mathematics for girls is an event of no little importance. The fact that the author has attempted to bring together "samples of problems from all occupations that women are likely to enter, from the textile mills to the home" is a hopeful indication of a new attitude towards the education of girls, even if it may seem a little over sanguine to include in the list such topics as plumbing and hydraulics, commercial electricity and house construction.

The book is almost encyclopedic in its scope. For this reason we shall confine our attention to the two sections that are of immediate concern to the home economics teacher, Part II, "Problems in Home Making," and Part III, "Problems in Dress-making and Millinery." Here there are "samples of problems" on such important topics as budgets and accounts, food and dietetics, fuel for light, heat, and power, and estimation of the amount and cost of material for garments and hats. The collection is extensive. One might wish that the problems had been selected or classified with reference to the same economic group. For instance, standards for the division of the income have been given for incomes of \$750 only, yet the problems in other chapters would be suitable only for families with much larger incomes, families that buy "mahogany furniture," "bouillon cups," "telephone stands," "electric irons," "chiffon scarfs," and invest in "stocks, bonds, mortgages, and insurance."

The chapter devoted to foods, a topic of special interest during the present crisis, is an attempt to treat dietetic computation in accordance with the modern theory of nutrition. Unfortunately, this has not been done with sufficient thoroughness or skill to make it entirely satisfactory. In the first place, the problems are somewhat disconnected. Thus a student is required to "find the number of ounces of protein in a pound and a half of dried beef" without making any use of the result. Then, the problems are not always of practical value. Thus, a girl is asked "how many cups 56 tablespoons of baking soda will fill," whether or not such a problem bears any reference to family cookery. Even the methods of computation are not always practical, as, for instance, when a student is expected to find the "fuel value of a pound of lard from the fuel value of a teaspoon," regardless of the fact that a teaspoon is at best an approximate measure. The amount of protein is figured in pounds instead of in grams or Calories, and the computation of the fuel value of menus by means of the 100 Calorie portion, a method that has the sanction of such eminent authorities as Professor Rose and Professor Fisher, has been entirely omitted.

The chapter on fuel for light and heat contains valuable information and practical problems, although there is some confusion between problems for the homemaker, the commercial user, and the house builder. In the chapter on house furnishings the tables on the cost of the furniture, china, and kitchen ware offer an opportunity for the study of various sociological problems. The section devoted to dressmaking and millinery offers a variety of problems,

some of which are suitable for the home, others for the trade. This section might have been more useful if the line of distinction had been drawn a little more sharply.

Yet in spite of its shortcomings, the book will undoubtedly receive a cordial welcome as a pioneer attempt to bring together the available material for teaching girls the arithmetic of every day affairs.

Since it is in so many respects a first attempt, it is inevitable that the first edition should contain some inaccuracies. The statement in a reference table that "1 gram of protein yields 4100 Calories" is evidently an error in the decimal point. Other careless errors have crept in, as, for instance, in the problems on the fuel value of food, "1 teaspoon of lard" (instead of 2) " $\frac{1}{4}$ cup of skimmed milk" (instead of $1\frac{1}{4}$), " $\frac{1}{2}$ of a medium sized egg" (instead of 1 to $1\frac{1}{2}$) are said to yield 100 Calories. A similar error is to be found in the rule for bias in which it is stated that "the length of a bias strip is about $\frac{3}{4}$ (instead of $\frac{1}{2}$) longer than the width of the goods." Such errors can readily be corrected by any teacher familiar with the subject. The teacher will also probably wish to substitute current market prices for those used in the table of the comparative cost of foods, in which round of beef is quoted at from 12 to 16 cents, stew meat at 5 cents, butter 20 to 30 cents a pound, and milk at 6 to 7 cents a quart,—prices that have not prevailed for many years.

She may also wish to add some problems in which the girls compile their own data and apply to their own home problems the principles that they have been studying in regard to budget making, dietetics, the estimation of the cost of materials for garments, and the keeping of accounts.

One is inclined to think that the book might have been more valuable to the teacher if it were based on a more critical analysis of a smaller number of occupations, with a wider range of choice in problems and a more logical development of each topic. But it will be of interest to teachers of home economics, not only because it is one of the

first attempts to collect the arithmetical problems of home making, but because it indicates how much material is available for use as soon as mathematics teachers are ready to discard traditions and select their problems from the home and the vocation.

KATHARINE F. BALL,
University of Minnesota.

The Healthful House. BY LIONEL ROBERTSON and T. C. O'DONNELL. Battle Creek, Mich.; Good Health Publishing Company, 1917, pp. 191. \$2.00.

As is stated in the preface, the purpose of this book, "is to emphasize the health importance of beautiful colors, beautiful lines and masses, beautiful wall and floor coverings, equally with fresh air and light—to present to the reader, in short, a house that is healthful because it satisfies the demands of hygienic and esthetic sense alike."

In chapter one, the introduction, the authors discuss the need of rest and repose in the healthful house. This can be obtained by: first, a study of the laws governing the use of form, outline, and color; second, a speaking acquaintance with one's own temperament; third, the knowledge that the character of the life to be lived in the house must be expressed by the intelligent use of form, outline, and color.

Chapter two gives a very practical discussion of the principles of beauty.

Of special interest is the discussion of the use of indirect lighting in the average home.

The feeling for direction or movement of line in outline is the basis for the selection and placing of furniture, the sequence of rooms, and the designs of staircases. Color plays a vital part in the comfort and restfulness of our homes, therefore the perceptions should be trained to respond to its harmonies.—"Healthy vigorous life will naturally express itself in rich colors, so that the colors with which one surrounds himself might almost be used as an indication of his state of health and of his attitude toward life."

Chapter three treats of backgrounds,

including in that term walls and floors. In this chapter as in the next four chapters the relation is shown between the practical and the esthetic, and the effect of both upon health. The following topics are included in these chapters: the House Harmonious, On Purchasing Furniture, On Choosing the Site, and Of What Material.

Chapters seven and eight present up-to-date facts concerning Heating, Ventilating, and the Dustless House.

Chapters ten to sixteen inclusive discuss the various rooms of the house, including, Basement, Entrance, Living Room, Dining Room, Kitchen, Bedroom, and Bath Room.

In these chapters, no attempt is made to classify furniture and rugs upon the historic basis. The basis of selection for each room is the intelligent use of the principles of beauty and the principles of hygiene.

ETHELWYN MILLER,
University of Chicago.

The Prevention of Disease. BY KENELM WINSLOW, M.D., Philadelphia and London: W. B. Saunders Company, 1916, pp. 348. \$1.75. By mail of the Journal, \$1.87.

Preventive medicine is no longer an idle expression of interest in the elimination of disease. It is a real force breaking down the traditions and mysterious medical laws of the past, and constructively building up a subject matter of paramount importance in the protection of human life.

Dr. Winslow has written a concise practical book which is accurate in fact, carefully written and, withal, more interesting than the usual volumes purporting to deal with this subject.

It is a guide book and not a book of reference, a book to be read and not to be placed upon the shelf for occasional consultation.

A number of the chapters are headed by introductory notes from the pens of eminent men with a purpose of giving character to the author and lending support to the scientific facts contained in the special chapter. Such backing up is hardly required and

appears somewhat puerile in a popular scientific work where the author soon indicates whether or not he possesses the fundamental knowledge warranting the writing of the book.

Whether writing on personal hygiene, germ diseases, food poisoning, the disorders of nutrition, or the prevention of diseases of children, Dr. Winslow has been moderate in his statements, well balanced in his discussions, and thoroughly conscientious in his presentation of the truths of preventive medicine as accepted today.

IRA S. WILE, M.D.

American Red Cross Text Book on Home Dietetics. By ADA Z. FISH. Philadelphia: P. Blakiston's Son & Company, 1917, pp. 118. \$.75. By mail of the Journal, \$.79.

The author of this book attempted a hard task in trying to cover the subject of Home Dietetics in fifteen lessons with a total of 133 pages. Some idea of the scope of these lessons may be gained from the list of subjects: I. Hygiene of Food; II. Nutrients; III. Meat and Fish; IV. Milk and Eggs; V. Cereals—General Discussion; VI. Cereals—Bread Making; VII. Meat Substitutes—Cheese, Legumes, and Nuts; VIII. Vegetables and Fruits; IX. Digestion; X. Fuel Value and Dietary Standards; XI. Bill-of-Fare Making; XII. Serving the Family Meals; XIII. Food for Infants and Young Children; XIV. Food for School; XV. Food for the Sick. With such a range of subjects covered in such short space, each must necessarily be given inadequate discussion. Digestion, for example, is disposed of in three pages. We assume that this brief treatment was not a matter of choice with the author.

All the lessons except the first are followed by exercises in practical cookery. It is to be regretted that the opportunity has been lost to make a real and evident connection between the material discussed in the so-called theoretical portion and the practical work.

Thirty-six of the one hundred and thirteen

pages are devoted to recipes. This seems unfortunate where the space available is so limited, and especially when the recipes are readily available from sources close at hand and in what seems to the reviewer a better form than they are presented here. There is unnecessary repetition that ought especially to be avoided when there is little space; e.g., nearly all the recipes are repeated, first in family and then in individual sizes. In some cases mistakes have been made in reducing the recipes. See pp.

22, 27, 36, 52, 106, and 112. There are several places where the proofreading seems not to have been done carefully.

After reading this book we are a little at a loss to understand just what is the field that "Home Dietetics" is intended to cover. From the standpoint of workers in dietetics, it seems unfortunate that the Red Cross has chosen to treat the subject in what seems so inadequate a way.

LOUISE STANLEY.

University of Missouri.

BOOKS RECEIVED

- American Red Cross Text Book on Home Dietetics.* By Ada Z. Fish. Philadelphia: P. Blakiston's Son & Company, 1917, pp. 118. \$0.75. By mail of the Journal, \$0.79.
- Better Meals for Less Money.* By Mary Green, New York: Henry Holt and Company, 1917, pp. 295. \$1.25. By mail of the Journal, \$1.35.
- The Charity Visitor, a Handbook for Beginners.* By Amelia Sears. Chicago: Chicago School of Civics and Philanthropy. New and revised edition, 1917, pp. 69. Paper, \$0.50. By mail of the Journal, \$0.54.
- Community Center Activities.* By Clarence Arthur Perry. Department of Recreation, Russell Sage Foundation, New York City, 1916, pp. 127. \$0.35. By mail of the Journal, \$0.40.
- Constructive Sewing.* Book II. By Mary E. Fuller. Indianapolis: Industrial Book and Equipment Company, 1917, pp. 83. Paper, \$0.60. By mail of the Journal, \$0.65.
- The Home and Its Management.* By Mabel Hyde Kittredge. New York: The Century Company, 1917, pp. 385. \$1.50. By mail of the Journal, \$1.62.
- The Manual Arts.* By Charles A. Bennett. Peoria, Ill.: The Manual Arts Press, 1917, pp. 116. \$1.00. By mail of the Journal, \$1.05.
- A Manual of Household Accounts.* By J. Chester Crandell, C. P. A. and Mercy Frye Crandell. Boston: Whitcomb and Barrows, 1917, pp. 24 plus ruled account pages. \$2.00. By mail of the Journal, \$2.13.
- The Modern Milk Problem.* By J. Scott MacNutt. New York: The Macmillan Company, 1917, pp. 258. \$2.00. By mail of the Journal, \$2.12.
- 1000 Things Mothers Should Know.* By Mae Savell Croy. New York: G. P. Putnam's Sons, 1917, pp. 296. \$1.50. By mail of the Journal, \$1.60.
- Proceedings, Tenth Annual Meeting of the National Society for the Promotion of Industrial Education.* Issued by the N. S. P. I. E., 140 W. 42nd Street, New York City, 1917, pp. 311.
- Training the Children.* By James L. Hughes. New York and Chicago: The A. S. Barnes Company, 1917, pp. 148. \$0.60. By mail of the Journal, \$0.64.
- Transactions of the Seventh Annual Meeting of the American Association for Study and Prevention of Infant Mortality.* Published by A. A. S. P. I. M., 1211 Cathedral Street, Baltimore, 1917, pp. 364. \$3.00 and postage.

PAMPHLETS RECEIVED

Issued by the U. S. Public Health Service, Washington, D. C.:

Third Report of the Commission on Milk Standards. Reprint No. 386.

Flight of Mosquitoes. By J. A. A. Le Prince and T. H. D. Griffith. Reprint No. 396.

Laundries and the Public Health. By M. C. Schroeder and S. G. Southerland. Reprint No. 385.

Issued by the Department of Food Sanitation and Distribution of the Women's Municipal League of Boston:

Housing of Food Stuffs in Small Provision Stores. Bulletin 8, No. 4, March, 1917.

Also a number of circulars, prepared chiefly by Simmons College alumnae, dealing with drying and canning of fruits and vegetables, jelly making, the economical preparation of food, and the use of substitutes for scarce food products.

Issued by the publishers listed:

Preservation of Food. Agricultural Division, Ohio Branch, Council of National Defense.

Food Economy for the Housewife. The State College of Washington, Pullman, Wash. \$0.25.

Food Values, Economical Menus. By Alice Bradley. Miss Farmer's School of Cookery, Boston, Mass. \$0.25.

Home Canning. The Connecticut Agricultural College Extension Service, Storrs, Conn. Home Canning Bulletin No. 4.

Household Accounting. By Laura Comstock. Massachusetts State Board of Agriculture, Boston.

Household Arts. Teachers Manual and Course of Study. Bulletin No. 29, 1916. Massachusetts Board of Education, Boston.

Kansas Mothers' Book. By Lydia De Vilbiss, M.D., Kansas State Board of Health, Division of Child Hygiene, Topeka, Kans.

Meals for Harvest Time. By Jen L. Cox. Home Economics Bulletin I, Kansas State Agricultural College, Manhattan, Kans.

Timely Suggestions and Economical Recipes. Department of Home Economics, Drexel Institute. 10 cents.

Utilization of Food. Receipts prepared by the Home Economics Department, Ohio State University. Issued by Agricultural Division Ohio Branch, Council of National Defense.

What is the Smith-Hughes Bill? Bulletin No. 25, National Society for the Promotion of Industrial Education, 140 West 42d Street, New York City.

BIBLIOGRAPHY OF HOME ECONOMICS

The bibliography this month is selected from the less technical magazines. All are 1917 issues unless otherwise stated.

Bread in Wartime. William L. Stoddard, *Good Housekeeping*, July.

What Must I Do? (Prepared in the office of the Food Administration.) *Womans Home Companion*, September.

High Cost of Living. David Starr Jordan, *Sunset Magazine*, April.

What It Costs to Live. William B. Wilson, *Independent*, February 26.

High Cost of Living: a Partial Solution. Dudley B. Palmer, *Outlook*, March 14.

The Cost of Roast Pig. H. P. Armsby, *Science*, August 17.

Reducing the Cost of Living. H. K. Orr, *Home Progress*, May.

Eat and Save Money; Some Simple Facts about Diet. Charles P. Cushing, *World's Work*, June.

Economical Ration for the Times. Charles Bolduan, *Scientific American*, December 9, 1916.

Food Values. Graham Lusk, *Science*, April 13.

Measured Meals for Girls and Boys. William R. P. Emerson, *Good Housekeeping*, April.

Do You Eat Enough Roughage? A. R. Reynolds, *American Magazine*, March.

What We Eat; and What Happens To It. P. B. Hawk, *Ladies Home Journal*, November and December, 1916; January, February, April, May, June and August, 1917.

What to Eat in Wartime. Graham Lusk, *World's Work*, August.

The High Cost of Waste. William C. Redfield, *Pictorial Review*, September.

Bureaucracy and Food Control. William C. Edgar, *Review of Reviews*, June.

Need of Food Thrift. Charles L. Pack, *Outlook*, June 13.

Service Army—Food Economy and the Elementary School. E. B. Kent, *Industrial Arts Magazine*, July.

Wartime Diet. Harvey W. Wiley, *Good Housekeeping*, June.

Waste Not, Want Not; an Interview with the United States Food Administrator. D. Wilhelm, *Independent*, June 9.

Conservation of Food. Dr. J. A. Wessner and George L. Teller, *The Modern Hospital*, July, August, and September.

High Cost of Food—Causes and Remedies. John J. Dillon, *Review of Reviews*, February.

High Food Prices and Their Causes. David S. Kennedy, *Review of Reviews*, January.

Keeping Down Food Costs. H. C. Douglas, *Independent*, May 12.

People's Markets. M. M. Marks, *Independent*, March 12.

Woman's Wit Pitted Against High Food Prices. K. Halsted, *Ladies Home Journal*, April.

War, Patriotism, and the Food Supply. Frederick V. Coville, *National Geographic Magazine*, March.

Food Problem: Waste in Hotels. J. C. Woodhull, *Outlook*, March 14.

How Much Food Shall I Buy for the Family's Three Meals? Alice Bradley, *Woman's Home Companion*, September.

Home Economics and Public Health. Winifred S. Gibbs, *Survey*, December 23, 1916.

Housewife and the Eight-hour Day. Harvey W. Wiley, *Good Housekeeping*, January.

Unit Courses in Household Science for Montclair Housewives and Maids. S. H. Bridge, *Industrial Arts Magazine*, January.

Cost of Educating the Underfed. I. S. Wile, *School and Society*, December 30, 1916.

Problems of Human Nutrition. A. E. Gibson, *Scientific American*, Supplement, January 20.

The Bacteriology of Foods. Edwin C. Jordan, *American Food Journal*, May.

Training of Girls and Women for Trade and Industry. Mary Schenck Woolman, *Industrial Arts Magazine*, September.

Honor System of Eating in England. Ruth W. Kauffman, *Outlook*, August 1.

Wherein Food Madness Lies. John W. Harrington, *New York Evening Post Magazine*, August 11.

What We Women Should Do. Jeannette Rankin, *Ladies Home Journal*, August.

Don't Make These Mistakes; An Appeal From One Who Knows to Every Patriotic Woman in America. Lord Northcliffe, *Ladies Home Journal*, September.

Enough and None To Spare. Hugh J. Hughes, *Reviews of Reviews*, August.

Food or Famine. J. Russell Smith, *Century*, September.

The Economics of Purchasing. Marion Parris Smith, *Journal of Association of Collegiate Alumnae*, February.

Maiding with Maids. Laura Belle Stephens, *Journal of Association of Collegiate Alumnae*, April.

Budget for Three. S. Chase, *Good Housekeeping Magazine*, May.

Food Budget in a Delaware Home. Mrs. J. B. Baxter, *Ladies Home Journal*, February.

Keeping Household Accounts. R. Hamilton, *Good Housekeeping*, February.

NEWS FROM THE FIELD

The Ellen H. Richards Memorial Fellowship offered jointly by the Trustees of the Memorial Fund and the University of Chicago has been awarded to Minna G. Denton, S.B. and A.M., University of Michigan. Miss Denton's teaching experience at Milwaukee-Downer College, Lewis Institute, and Ohio State University has been supplemented with research work as Fellow in Physiology at the University of Chicago and in the preparation of various scientific papers. She is at present at work on a problem in food conservation, viz., "Alterations in Nutritive Value of Vegetable Foods Due to Boiling and Canning." The fellowship carries a stipend of \$500 and tuition fees for the year 1917-18.

The Federal Board for Vocational Education, provided for by the Smith-Hughes Bill to administer the funds appropriated by this bill, consists of the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Labor, the United States Commissioner of Education, and three citizens appointed by the President: Mr. James P. Monroe, of Massachusetts, Mr. Charles A. Greathouse, of Indiana, and Mr. Arthur Holden, of Iowa.

The Board has chosen Mr. C. A. Prosser, formerly of the Dunwoody Industrial Institute, Minneapolis, as Executive Officer, with five assistant directors: Miss Josephine Berry, of the University of Minnesota, representing Home Economics; Mr. Layton S. Haskins of New York, representing Agriculture; Mr. Lewis H. Carris of New Jersey, representing Industrial Education, and Mr. Charles H. Winslow of Indiana, representing Research. The assistant director for commercial education is not yet appointed.

Miss Berry is on a six months' leave of absence from the University of Minnesota.

Notes. Miss Mary Sweeney, of the University of Kentucky, is acting as chief of the Home Economics Section of the Food Administration for September and October. Miss Isabel Bevier, of the University of Illinois, is to serve for November and December.

It has been planned that representative women from different colleges shall hold this position for two months at a time, thus bringing Home Economics workers from each section of the country into close relation with the Food Administration. The permanence of the work is to be maintained by the appointment of an executive secretary.

Miss Marlatt has returned to her work in Wisconsin, but still holds the chairmanship of the advisory committee.

Miss Anna Barrows is to give several months to the work of the Office of Extension Work, North and West, States Relations Service. She will be part of the time in Washington and part "on the road."

Miss Edith Guerrier, of the Boston Public Library, who organized the Food Facts Center in Boston, and who is in charge of a branch library in the Italian district, is in Washington for two months to develop the Food Conservation Library established by the Home Economics Section of the Food Administration. Miss Guerrier, in connection with her social service work, founded the well known Paul Revere Pottery.

Miss Katharine Blunt is to be in the Office of Home Economics, United States Department of Agriculture, for four months from September 1 to January 1 to direct the preparation of a number of emergency food leaflets for extension teaching. She is working in cooperation with extension workers from different sections of the country.

The following appointments have been made at the University of Chicago: Susanah B. Usher, well known for her work in home economics, and Evelyn G. Halliday, in the Department of Home Economics; and Clara B. Knapp, in the Department of Household Arts. John Foote Norton, for some years in charge of the courses formerly given by Mrs. Richards, has left the Massachusetts Institute of Technology to be Assistant Professor of Hygiene and Bacteriology.

Mr. H. L. Lang, who has assisted in preparing the Bibliography for the JOURNAL has left the Office of Home Economics, United States Department of Agriculture, to take a position as Assistant Professor of Biology and Public Health in the Carnegie Institute, Pittsburgh. Mr. Lang is particularly interested in the relation between Home Economics and public health questions.

The work of the research department of the Women's Educational and Industrial Union has begun for the year. The department is coöperating with the home economics division of the United States Department of Agriculture in securing material for a national dietary survey, the results of which are to be used in connection with the national problems of food production and food conservation.

Mrs. Lucinda Wyman Prince, director of education of the National Retail Dry Goods Association and director of the teachers' training class in Simmons College, Boston, has volunteered her services to the United States Food Administration and has been appointed executive secretary in charge of instruction in food conservation in stores.

Miss Emma Francis, formerly instructor in Michigan Agricultural College, is doing research work for Battle Creek Sanitarium, and teaching biology in the Home Economics School there.

Prof. E. V. McCollum of the University of Wisconsin, has gone to Johns Hopkins University to take charge of the department of chemistry of the new school of hygiene and public health, established by the Rockefeller Foundation in connection with the medical school.

The office of the secretary of the National Education Association has been transferred from Ann Arbor, Michigan, where it has been for many years, to 1400 Massachusetts Avenue, Washington, D. C. The new Secretary is J. W. Crabtree.

A Dietitians Conference is to be held in Cleveland, October 18-20. Miss Graves, Temporary Chairman.

On Thursday afternoon there will be an address by Mrs. Caroline Bartlett Crane, Women's Council of National Defense. The evening program will include the following:

Economical Buying, Miss Mable Little, Director of University Dining Hall, Cornell University; Discussion, Dr. Teck; Round Table—Food Conservation, led by Miss Lenna Cooper, Dietitian, Battle Creek Sanitarium.

Friday morning will be given to the subject of Food and Nutrition: Infant Feeding, Dr. Ruth Wheeler, University of Illinois; Adaption of Foreign Cookery to American Cookery, Dr. Nolan, Editor of Interstate Medical Journal; Vitamines, Dr. Amy Daniels, University of Wisconsin.

The evening will be given to Institutional Management: Hotel Management, Mr. Willy, of the Hotel Monthly; The Dietitian and Her Equipment, Miss Louise Pollock, Dietitian, St. Louis City Hospital.

Saturday's program is as follows:

Morning. Diet in Disease: What Laboratory Reports should Mean to the Dietitian, Dr. Lewis, Battle Creek Sanitarium; The Red Cross Dietitian, Miss Elva A. George, Dietitian, Bureau of Instruction, Washington, D. C.

Afternoon. The Dietitian as the Doctor's Assistant, Miss Lulu Graves, Dietitian, Lakeside Hospital, Cleveland; Discussion, Miss Rena Eckman.

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CAN THIS ASSOCIATION HELP TO REDUCE THE DEATH
RATE AMONG CHILDREN?¹

MRS. MAX WEST

Children's Bureau, United States Department of Labor

It is pleasant indeed to have my subject in the form of a question to which I am able to return an unqualified affirmative reply, with little fear of provoking argument. There is so much that this Association may do to reduce the death rate among children; to cut down illness and suffering; to prevent pain and loss; to reinforce and build up health; to strengthen and uphold the hands of the Government and to multiply ten thousandfold the happiness and efficiency of the people of this country, that the magnitude of the opportunity is at once baffling and inspiring. It baffles because one hardly knows where first to take hold; what are the best measures to adopt; how to persuade people to adopt a concerted plan, and not waste time, effort, and money in doing things wrong and then undoing and doing them over, if it is not too late. It inspires because such a task would be supremely well worth doing at any time and under any circumstances; but when at a momentous crisis in history it has suddenly become of infinitely greater importance than ever before, it is indeed a task to stir the most literal imagination and rouse the most sluggish spirit to unwonted activities. Even as I speak there is sitting in Washington a body of men and women eminent in health work, studying the very problems I have suggested, striving out

¹ Presented at the meeting of the American Home Economics Association held in connection with the N. E. A., Portland, Ore., July, 1917.

of the chaos and bewilderment of this bewildering hour to learn how best to preserve the citizenship of our country by conserving our children.²

It is not for me to dictate a program of work to this great body of educators and specialists, but perhaps I may be permitted to bring before you some of the facts the Children's Bureau has gathered with respect to children and their needs, in the hope of suggesting to your committee some practical lines of work. Perhaps I cannot do better than to lay before you first of all some of the general facts regarding children and child life.

There are in this country about 30,000,000 children under fifteen years of age. When you consider that about one-third of the total population of the United States consists of persons who have not yet arrived at physical maturity, who are in need of protection against illness, overwork, temptation, and vice; who must be fed, clothed, warmed, housed, and protected; who demand education and training; who must be safeguarded at every hand if they are to develop normally, you will readily see that the problem is not a small one either in size or complexity.

The Children's Bureau was instructed by Congress "to investigate and report upon all matters pertaining to children and childlife among all classes of the people,"—a task which in the short life of the Bureau has only been begun.

Of the 30,000,000 children mentioned above, between 2,000,000 and 3,000,000 are babies under one year of age—the weakest and tenderest section of our population and the class upon which life presses hardest and in which also the greatest waste of life occurs.

The first specific direction given by Congress and also the first field investigation undertaken by the Bureau was to study the causes of infant mortality in this country. The Bureau has completed a number of detailed studies in this subject in different localities, and while its investigation is not yet complete certain facts have emerged from all the studies so far made which are not likely to be controverted, however far the examination proceeds.

These two facts are that the fortunes of infant life are inextricably bound up with the economic condition of the family and with the educational status of the mother. In other words, the fundamental conditions which kill thousands of babies every year and seriously weaken many thousands more are poverty and ignorance.

² Report of a committee on measures for the protection of children in war time to the Council of National Defense.

Our investigations, like others here and abroad, show conclusively that as the income of the family increases the infant death rate falls. The death rate is high in all the low income groups; it falls sharply as the incomes approach \$800; and it tends to seek an average relatively low level after \$1200 has been reached. The supreme necessity then for thousands and thousands of American families today is to be provided with an income which shall permit the mother to secure decent living conditions for her children and her family.

The second great factor which affects infant life is the lack of fundamental knowledge among mothers of the essentials of proper maternal and infant care. This condition of ignorance influences the problem of infant mortality in countless ways, but most especially with respect to infant feeding. Reports of the Children's Bureau upon infant mortality discuss this question at length.³

Now, how can this Association help to cut down the number of these infant deaths and save thousands of potential citizens to lives of usefulness? First by helping to cut down poverty and increase the resources of the family. That this is essentially the work of such an Association is indicated by its name.

The work that you have been doing for at least a quarter of a century in the attempt to apply scientific knowledge to the problems of the home should by now begin to show itself in the increased efficiency of the average home. But it is much more necessary even in the *un*-average home, if I may so term it,—meaning that home where the homemaker working under the most unfavorable conditions is most in need of help, especially at this moment, for it is the poorest home and the poorest mother who will suffer most as the stringency of the war increases.

All the present day emergency teaching in the conservation of foods and in their economical use and preparation in the home kitchen is a direct attack upon one of the most vital points in the strongholds of poverty, but it must be brought into thousands of homes where not even a beginning of such teaching has yet been made.

Second, this association has a great work to do also in attacking the problems of ignorance, specifically ignorance in the care of babies and young children. A teacher of home economics who has not learned some of the fundamental principles of child hygiene and dietetics must

³ Infant Mortality Series, Children's Bureau, Washington, D. C.

be baffled many times by the questions asked her. There can be little doubt that a coming development and expansion of your great and beneficent work will be to give home economics teachers the opportunity to study these subjects in college. But even now you can at least be the conveyors of helpful educational literature to the mothers with whom you come in contact. The Children's Bureau will be glad to tell you how to secure free pamphlet material which you can help to distribute as you go about the country in your teaching work.

It is to such a body as this, to teachers trained for the solution of the problems of the home, that the country must look for enormous help in the great questions which are before our country at all times, but which loom up in the present moment with a solemnity never before known. Upon every teacher of home economics is laid the responsibility of some part of this great work of education. She must accept hers as a divinely appointed mission to each individual mother in need of her help, to carry into every such home instruction that will serve to make that home better able to fight against its two arch-enemies—Poverty and Ignorance.

THE HOUSING PROBLEM¹

LAWRENCE VEILLER

Secretary National Housing Association, New York City

It is interesting to note that one of the earliest legislative committees in New York State, back in 1856, appointed to investigate tenement house conditions in New York, brought in a recommendation for better homes, and based the main argument for them on the fact that they would decrease the evil of intemperance; that if a man and a woman had a decent home, with decent cooking, there would be very much less temptation for the man to go to the corner grocery, as it was called in those days. Even then there was seen a vital connection between the home, the house, the domicile, and this important question of food.

The housing problem is not a new problem, nor is it confined to America. It is a universal problem; it is as old as civilization. The nearest

¹ Presented at the Ninth Annual Meeting of the American Home Economics Association, Ithaca, 1916.

early approach to present conditions such as we are familiar with in America, was found in Rome, and almost the very same problems that are met with today, were met with in Nero's time in Rome, and the same remedies were applied. It was found necessary, for instance, to limit the height of buildings, and the limit in Rome was almost identical to that adopted in most of the large cities of America. Many seem to think that the housing problem is a city problem; but it extends to the town, the suburb, the country, the prairie. I know of a case of thirteen people living in a house of one room on an open prairie where the nearest house is ten miles away. The problem of room over-crowding or congestion is not due to any lack of space, or the high price of land. Those familiar with rural conditions know that in some cases the farmers' house is worse in its construction and its plan, than even the slum dweller's tenement home. The interior bed-room in the country house is due to the fact that the house was not built by an architect but just "grew" like Topsy.

Briefly, what is the housing problem, and what are some of the housing conditions that should be considered by people who are leaders of thought in this work? A few of the main faults are: dark rooms, cellar or underground living apartments, privy vaults, filthy and dirty outhouses, bad drainages of yards, dilapidated buildings, room over-crowding, land over-crowding, sometimes taking in lodgers and boarders and breaking up the home. With the exception of land over-crowding every one of these faults is to be found in every kind of community, not only in the United States and Europe, but everywhere. There is no excuse for the building of houses with dark rooms, except the ignorance and stupidity on the part of the builder or the person planning the house. Often they do not realize the consequence of dark rooms. Most people do not build their own homes. They have to rent and take the kind of accommodation that they can find that is vacant in the part of the city convenient to their business and occupation, and especially within their purse. The average working man probably does not have a wider range than a radius of six blocks from his work and when he does he looks for a house that rents for \$12 or \$16 or \$20 a month. There is no consideration of whether the house is adequate or suited to his needs or a suitable place to bring up his children. We know that the dark room, or possibly the over-crowded room, is the most important factor in relation to the tuberculosis problem. Studies made by experts show that the relation between room over-crowding and tuberculosis is intimate and direct,

and that the death rate increases absolutely according to the number of rooms that the people occupy, being twice as great in one room apartments as in three room apartments, three times as great in districts where there is 35 per cent of over-crowding as compared with 10 per cent of over-crowding. The relationship of housing to other forms of disease is very great.

There is no reason why people should live underground. But just as sure as there are underground living rooms, there will be people living in them because there are always people who will live in anything they can get; their standards are very low; their purses are small, and they must take what is available. By an underground residence is meant a portion of a story which is predominately underground, and where there are bound to be conditions of inadequate light and methods of living that are not good for the bringing up of a family.

In New York fifteen years ago were found 361,000 windowless rooms in the homes of the poor. There is not a city in the United States today that does not have this problem. There are only three cities in the entire United States which forbid the erection of dark rooms in all kinds of dwellings. There are probably 100 cities which forbid it in tenement houses, but the dark room is just as deadly in a two-family house as in a three-family house. The first task that confronts all of those who are undertaking this gigantic question is to eliminate the dark rooms and to prevent the construction of any in the future. The former task is difficult, for when a house is once built it cannot be remedied without tearing it down. In New York we could not make those 361,000 rooms light but we made them lighter.

There is no factor in our American life today from the health point of view that is so potent a menace to the entire country as the presence in our various communities of large numbers of privy vaults or their various alternatives or variations. There are not a dozen cities in the United States where even the health officials know how many privy vaults there are. The city of St. Louis has 20,000 privy vaults, and Minneapolis has 17,000. Baltimore never had any sewer system until three or four years ago, and the ordinary slops from the wash tubs and kitchen sink went down on the surface from a little gutter on the side walk into the street gutter and the outlets from the water closets went into cess pools. Numerous other places where such conditions exist might be named. The vault is an indecency; it is a work of barbarism; it is far worse than that; it is a menace.

It is often said that the working man should have a home with yard and garden, but it is better for him not to have it if it is just a waste space, littered with refuse such as slops, dead cats, ash heaps, and tin cans. That is a sort of thing which should not be allowed. Even if it is not true that a direct relation can be traced between dirt and disease, dirt is sordid. Sordidness of outlook and the presence of filth in back yards and cellar rooms has an extremely bad effect upon standards of living of the people and indirectly on their life.

In considering the effect of housing on social disorder and crime, it is interesting to note that in two or three instances upon the occasion of big industrial strikes, when the investigations of the causes of the strikes were made, it was reported that the people lived under conditions that were not fit even for animals. Anyone who has had any occasion to look into the questions of milk production and the care of cattle knows that there is hardly a state in the United States which will allow cattle to be housed under the conditions under which human beings can be housed all over the country, the conditions under which hundreds of thousands of people are housed in the United States.

The remedies for these conditions have not come over night; they have been of slow development. A great change cannot be hoped for in a few weeks, or months, or years, and one must set about removing the causes. These conditions are due to two basic causes, ignorance, and neglect—the ignorance and neglect of everyone who has not thought about these things, who has not cared; who has done nothing. The Russell Sage Foundation about three years ago started an inquiry among the municipal health officers by a questionnaire, asking what they were doing in about eight broad phases of public health work, like infant welfare, and periodical sanitary inspection. The result of that inquiry was startling, and showed that public health work in the United States was in its infancy. Those who have come in close contact with municipal health officers have realized that for some time. The average municipal health officer does not even know the facts. There is a class of health officers who think that housing is not their work. That class I am quite sure is diminishing.

I commend to you the taking up of this large question of housing. Even if you cannot give it a predominant interest, you can begin it. Speaking on behalf of the National Housing Association, I pledge you our heartiest coöperation and welcome you with extended hands in the fight against slums.

A SUMMER COURSE AT HAMPTON

CARRIE A. LYFORD

Specialist in Home Economics, United States Bureau of Education

This year for the first time a course in Institutional Management was held during the Summer School at Hampton. The class was made up of matrons who have charge of the dormitories and boarding clubs in private or public colored schools of the South. Representatives from ten States were present in the class. The General Education Board defrayed the traveling expenses of most of those in attendance. The schools from which the members came range in size from the small boarding school with fifteen resident pupils to schools caring for two hundred and fifty boarding students.

The following course formed the basis for the daily two hour conferences that were held for four weeks:

Lesson 1. The relation of home economics to food questions in dormitories.

Lesson 2 and 3. What constitutes a well chosen ration: quality, quantity, and variety.

Lesson 4. Cost of feeding: food service, fuel, overhead expense.

Lesson 5. The problem of marketing: method of selection, whole-sale figures, contracts.

Lesson 6. The problem of storage.

Lesson 7. Kitchen equipment: labor saving devices.

Lessons 8 and 9. Sanitation in the kitchen: control of insect pests, disposal of garbage.

Lessons 10 and 11. Table equipment and service, table etiquette.

Lesson 12. Equipment of rooms.

Lesson 13. Sanitation of dwelling and surroundings, disinfectants.

Lesson 14. Care of halls, parlors, bath rooms, and other rooms.

Lesson 15. Laundry management: institutional and personal.

Lesson 16. Kitchen gardens: seasonal vegetables, flowers for table decoration.

Lesson 17. Working schedules.

Lesson 18. Accounting and keeping of records.

Lesson 19. Coöperation between matron and general teaching force.

Lesson 20. Discipline.

The first portion of the course was devoted to a study of the food problem as it presents itself to those who are required to provide an adequate diet for the growing girl or boy at an average of from eight to fifteen cents a meal. Local conditions were carefully considered. Necessity for the utilization of products of the school garden and of those food products that come from the homes of the girls in lieu of board was recognized.

The use of the dormitory as a practice laboratory for the students while receiving their training in home economics was kept in mind throughout the discussions.

The dormitories, kitchens, and dining rooms at Hampton Institute were visited to illustrate the various points discussed.

In addition to the course in Institutional Management the matrons were asked to take the course in cooking, planned to emphasize the essential points in food conservation, and the course in hygiene which was based on the study of the physical needs of the boys and girls of school age.

A SCORE CARD FOR HOME ECONOMICS ENGLISH

ANNA MAUD EARTHART

Believing strongly in the correlation of courses, I welcomed the introduction of the illustrated talk into the English course for home economics students at Iowa State College. As I was planning my work, the score card used in the demonstration classes in home economics suggested possibilities, and guided somewhat by it I arranged for the freshman composition classes the outline given below. Since my purpose was to lead toward a standard for the preparation and criticising of the talks, the suggestions adapted from Sarcey were added.

The outline has proved of use both in preparation of assignment and in class. It is discussed and then given to the students as a guide in preparing the talks. When the talks are given, it is of service in securing definite criticism from the class and, through this, the development of discrimination. With this end in view, I call upon different girls to comment upon the strong and the weak points of the talk given. This

may be varied by assigning points to different girls before hand. At other times, numerical values are given to the main points, and the class is called upon to score. As a last exercise on this work, each girl is asked to write a criticism of one of the talks, the outline being her guide.

POINTS TO BE CONSIDERED IN ORAL COMPOSITION

- I. Essentials of the talk as a whole.
 - A. Amount and value of subject matter.
 - B. Clear and logical development.
 - C. Accuracy of statement.
 - D. Spiciness.
Effectiveness of illustrative stories, comparisons, apt quotations.
- II. Details of composition.
 - A. The Paragraph.
 1. An adequate topic sentence.
 2. Establishment of the thought contained in the topic.
 3. Application of the thought contained in the topic.
 - B. Sentence structure.
 1. Compound.
 - a. Placing of ideas of equal rank in coördinate clauses.
 - b. Proper conjunctions.
 2. Complex.
 - a. Placing of main idea in main clause.
 - b. Proper conjunctions.
 3. Simple.
Its use in giving simplicity, emphasis, and sentence variety.
 - C. Transition.
 1. Between paragraphs.
 2. Between sentences.
 - D. Introduction and conclusion.
 1. Adequateness to subject matter.
 2. Appropriateness to occasion.
 - E. Avoidance of grammatical errors.
 - F. Choice of words.
 1. Good usage.
 2. Effectiveness.
 - a. Conveyance of exact meaning.
 - b. Forcefulness.
 - c. Suggestive power.
- III. Details of presentation.
 - A. Appearance.
 - B. Delivery.
 1. Poise.
 2. Effectiveness.
- IV. Additional details of presentation for the illustrated talks.
 - A. Illustrative material.
 1. Adequateness.
 2. Effectiveness.
 - B. Manipulation of material.

SUGGESTIONS FOR LECTURING

Adapted from Francisque Sarcey.

The first condition in giving a lecture is to have something to say. "To make a hare-ragout," says La Cuisinière Bourgeoise, "first catch your hare;" a good hare-ragout cannot be made of a rabbit's tail.

Be assured that there will be nothing good in your lecture but what you shall have thought for yourself, and what you shall have thought for yourself will have always a certain seal of originality.

When once you are in possession of your subject, and of the ideas that it has suggested, you then must classify and arrange them; that is the work of composition. I know none more important or more difficult.

I permit you only one note, but that I counsel you to bring and keep open on your table. It ought to be contained in a little scrap of paper as large as your hand. This note is the plan of the lecture. There are three or four points which the lecture should touch successively, and which form, as it were, its skeleton; these points can be fixed by two words, let us say a line of writing, if you wish to give full measure. You will rarely have need of the scrap of paper, but it is a security to know it is there.

Speak from behind a table even though (according to the rules I have laid down) you have no notes to read. One is sustained by the table and brought around to the conversational tone.

All the rest can be put into one sentence, "Be yourself." It is understood, is it not, that it is necessary first to be some one?

THE COST OF WOMEN'S CLOTHES

J. L. ASHLOCK

State College of Washington, Pullman

A "textile convention" held by the home economics girls of the Washington State College, and attended by all women students of the institution, to help in a statewide campaign for greater discretion, judgment, economies, and "taste" (as distinguished from "style") in the buying

of women's wearables, is a recent feature of the war preparedness campaign of the Pacific Northwest.

Acting under the advice of their teachers, the girls made investigations of the nation-wide and world-wide situation with reference to textiles, and reported what they found and recommended to the convention. They were addressed by dry goods merchants, one of whom submitted to the convention an array of statistics on women's buying, assembled, during a number of years, from the business of his own firm. From these statistics he had deduced the conclusion that not more than 15 per cent of the textiles purchased by women were actually worn out, and that the 85 per cent discard was due in a large measure to the quick changes in "style."

Mr. J. N. Emerson, a merchant of Pullman, Washington, who submitted these statistics, had included the buying of business men, professional men, college employees and members of a college faculty, laborers on the streets of the city, and the first four months' expense of a newly married couple. All of these were "one store" customers, meaning that Mr. Emerson had a complete record of their household buying; also, the records were made at times of the year when the buying would not be unusually high, such as "buying seasons" when families would be purchasing the season's hats, cloaks, suits, and so on.

The first figures he submitted covered the buying, from January 1 to May 16, 1917, of a family consisting of a father, mother, three small children, and a son in high school. The account for January was as follows:

Mother and girls, for dry goods.....	\$33.16
For family groceries.....	32.90
Expenditures of father and son.....	8.75
Shoes for mother and girls.....	5.05

The family expenditures were carried through the different months, and on May 16, reached the following totals:

Mother and three girls, for dry goods.....	\$150.03
Family groceries.....	92.84
Expenditure for father and son.....	40.00
Shoes for mother and girls.....	31.30
	<hr/>
	\$314.17

Working out the several percentages, it was seen that, in the period concerned, the mother and girls had used for dry goods 47 per cent, and

for shoes about 10 per cent of the entire amount spent. For groceries, a little over 30 per cent had been spent; and for men's clothing, 13 per cent.

This family lived close to town, but kept their own cows, raised their own potatoes, and had their own butter and eggs, thus reducing their grocery bill to the extent of these items.

Another family consisted of father, mother, three daughters, and a son. Two daughters were in college and a son and daughter in high school. The expenditures submitted covered January, February, March, and April.

Mother and daughters, dry goods.....	\$116.30
Groceries.....	170.80
Expenditures by father and son.....	37.60
Shoes.....	27.50

Another family considered in this connection included father, mother, a son and a daughter. Their account for January, February, March, and April presented the following family expenditures:

Dry goods.....	\$65.05
Groceries.....	129.70
Shoes.....	33.05
Father and son.....	8.45

The next was a family of three—father, mother and a small baby, and the period was February, March, and April:

Dry goods.....	\$61.57
Groceries.....	80.94
Shoes.....	19.00

Next, was a family of three, consisting of father, mother, and a daughter in the public schools, covered for a period of three months.

Dry goods.....	\$113.55
Groceries.....	87.70
Father (for suit of clothes and overcoat).....	48.10
Shoes.....	21.55

The next family consisted of father, mother, a son seven years old, and a daughter in the public school. This man was a workman receiving \$50 a month, with which, by the use of most drastic economies, he was managing to live and pay his bills. The family account was segregated for the months of June, July, August, and September, as follows:

Mother and daughter, dry goods.....	\$14.10
(In this sum, there was \$1.70 for dishes)	
Groceries.....	90.60
Shoes, mother and daughter.....	3.50
(The girl had a pair of sandals costing \$1.10)	
Clothing for the man.....	3.35
(Two pairs of overalls, \$1 a pair; one working shirt, 50 cents; 60 cents worth of socks; 25 cents worth of red handkerchiefs)	

He received for his four months' work, \$200. He paid \$12 a month for his home, a dollar a month water rent, and his fuel bill was estimated at approximately \$10 a month, wood and coal being high. The segregation stated does not account for occasional medical expense, meat, milk, or small expenditures for entertainment—the latter being very small, obviously.

The budget of the "newlyweds" was for June, July, August, and September. The family expenditures for this time fell under the following headings:

Dry goods for the wife.....	\$21.09
Groceries.....	50.25
Shoes for wife.....	14.25
Man's clothing and furnishings.....	24.25

The unique thing about this family budget was that during the period the man spent more for dry goods than did his wife. Mr. Emerson stated that he had asked five girls in his store to write on a slip of paper their explanation of this fact, doing so without consulting one another. Each girl wrote, in substance: "She had her clothes before she was married."

Concluding, Mr. Emerson said: "A fact with which we now are confronted is that the 'style problem' enters more largely into the buying of women's clothes and wearables in general, than is true in the case of the men. You can see at a glance where the preponderance of the expenditure lies in these figures—women's dry goods and shoes. We know well enough that they are not wearing all of this material out. In the present war emergency, where nationwide economies are demanded, you can see that we have a problem, and that, in so far as clothes are concerned, it is largely the women's problem."

PARTIAL ANALYSIS OF FOOD-WASTE PROBLEM

PREPARED BY LUCIUS P. BROWN .

*Director of Bureau of Food and Drugs, Department of Health, New York City*WASTES OF FOOD OCCUR IN ITS HANDLING AND UTILIZATION FROM
THE FOLLOWING CAUSES

- I. In Producer's Hands
 - A. On Farm
 - 1. Growing Conditions
 - a. Unfavorable weather, weakening plant.
 - b. Insect pests or micro-organism infection.
 - 2. In Harvesting
 - a. Excessive rains or drouth at time of packing.
 - b. Shortage of labor.
 - c. Too long storage before shipment.
 - d. Storage under unfavorable conditions before shipment.
 - e. Too early harvesting.
 - f. Holding of cars too long because of shortage of labor.
 - 3. Poor Packing
 - a. Due to unskilled labor.
 - b. Due to shortage of labor.
 - c. Rough handling of filled package.
 - d. Unsuitable or poorly made containers.
 - e. Poor grading.
 - 4. Shipping Defects
 - a. Undue holding of cars to secure carload freight rates.
 - b. Overloading of cars.
 - c. Poor judgment or carelessness in placing packages in car.
 - B. From Woods and Waters
 - 1. Catching of young fish.
 - 2. Same causes as shown under 1A-2c; 1A-2d; 1A-3d.
 - 3. Failure to properly ice.
 - C. In Factory
 - 1. Spoilage from insanitary conditions.
 - 2. Spoilage due to unskilled labor or labor shortage.
 - 3. Insufficient number or poor quality of containers.
 - 4. Failure to use by-products.
- II. In Transit (in hands of transportation companies)
 - A. At Shipping Point
 - 1. Shortage of cars.
 - 2. Congestion on loading trucks.
 - B. In Handling Trains
 - 1. "Slack" Management
 - a. Poorly designed or improper cars.
 - b. See also 1A-4c.
 - c. Trains skipping icing stations.
 - 2. Defects in Handling
 - a. Refrigeration defective or lacking altogether.
 - b. Cars not rendered frost-proof.
 - 3. Delays in Transit
 - a. Due to poor management.
 - b. Due to strikes, etc.
 - c. Due to floods, storms, etc.
 - C. After Arrival at Destination
 - 1. Congestion at Piers or Other Terminals
 - a. Due to track shortage.
 - b. From undue length of demurrage.

- c. Strikes or other labor troubles.
 - d. Due to shortage or storage place for goods.
 - 2. Ill-advised Reconsignment.
 - 3. Undue Holding of Cars
 - a. Through slack management.
 - b. To profit by market changes (at consignee's order).
 - 4. Abandoned by Consignee
 - a. Wholly unsound.
 - b. Partly unsound and overhauling not profitable.
 - c. Partly unsound but facilities to salvage unavailable.
 - d. Market conditions believed to be unfavorable.
 - 5. Rough handling at terminals.
 - III. In Distribution (from hands of transportation company to consumer)
 - A. Wholesale
 - 1. Holding too long.
 - 2. Inefficient cars.
 - 3. Poor storage facilities.
 - 4. Goods stored in poor condition.
 - 5. Overstocking.
 - 6. Damage by rats, insects, etc.
 - 7. Failure to remove promptly from terminals.
 - B. Retail
 - 1. Carelessness or inefficiency.
 - 2. Through fancies of customers.
 - 3. Due to trimming, etc.
 - 4. Overstocking.
 - 5. Exposure to dust and insects.
 - IV. In Kitchen
 - A. Hotel or Restaurant Kitchen
 - 1. Stale bread thrown away.
 - 2. "Slack" business methods.
 - 3. Portions too large and too many gratis "side-orders."
 - 4. Too much variety in dishes or single items, e.g., bread.
 - 5. Overstocking.
 - 6. Influence of custom, e.g., serving sugar on table.
 - 7. Improper disposal of waste products, e.g., burning of garbage.
 - B. Private Family
 - 1. Unbalanced ration.
 - 2. Letting good food go into garbage pails and sinks.
 - 3. Poor facilities for and ignorance in handling foods.
 - 4. Poor cooking.
- Wastes in the Food Supply, due to Economic Reasons and resulting therefore in loss of money to the consumer, occur in Trade Channels in part from the following causes:
- A. No Terminal Markets.
 - B. Duplication of Marketing Facilities.
 - C. Expensive Cartage.
 - D. High retail delivery costs.
 - E. Unnecessary credits.
 - F. Extravagance in service and display.
 - G. Failure to buy home-packed goods of equal quality.
 - H. Failure of retailer to use proper merchandising methods.

The American Food Journal

THE AMERICAN PAPAW AND ITS FOOD VALUE¹

C. F. LANGWORTHY

Chief, Office of Home Economics, United States Department of Agriculture

AND

A. D. HOLMES

Scientific Assistant

The name papaw (sometimes written pawpaw) is applied to two distinctly different fruits, both grown in the United States—one the native American papaw (*Asimina triloba*) and the other the fruit of the tropical American tree papaya (*Carica papaya*).

The papaw (*A. triloba*) varies in size from a bush to a medium-sized tree and usually bears fruit abundantly. From early times in this country the fruit has been gathered and used as food, the European settlers apparently learning its use from the Indians. Wherever it grows its use as food is well known, especially in rural regions, and is a favorite with many. It is little known, however, outside of the regions in which it is found wild, very likely because the flesh is very soft and easily bruised, especially when fully ripe. The fruit, which matures about the middle of September, remains in good condition only a short time after it is picked and does not stand either transportation or storage well. This difficulty is increased by the fact that many do not consider it edible until it is dead ripe; some even prefer it after it has begun to turn blackish in color and others maintain that a frost is required to bring the papaw to perfection. As a result of these preferences it is ordinarily eaten from the tree and is not found in quantity in the markets, even in the regions in which it grows.

Writers appear to differ as to whether the skin of the papaw should be eaten in conjunction with the pulp or not, some maintaining that the skin possesses constituents which cause urticaria, while others pronounce it both palatable and wholesome. According to Corbett,² it is more usual to eat the skin with the pulp than to discard it.

Nature of fruit. The papaw has much in common with the custard apple, being a member of the same family. In appearance the mature fruit is practically cylindrical, with both ends rounded, the length being two or three times its diameter. The stem is attached, not at the end on the line of the long axis of the fruit, but a little to one side of the

¹ Published by permission of the Secretary of Agriculture.

² *Garden and Forest*, 8 (1895), No. 407, p. 494.

end, so the fruit hangs almost horizontal rather than perpendicular. it grows, the largest and best-developed specimens coming from the damp lowlands of the Mississippi Valley. The size of the fruit varies considerably with the localities in which it grows. A good-sized papaw will weigh three-fourths of a pound or sometimes a pound, though most of them are smaller, particularly when they grow clustered on the branches. The fruit contains a double row of shiny black seeds, which are arranged at right angles to its axis and occupy a very considerable portion of the interior of the fruit. Surrounding the seeds is a creamy pulp having a smooth texture and a rather pungent aroma, which, as the fruit ripens, is replaced by an ethereal flavor, for which the papaw is especially esteemed by its admirers. In appearance the papaw resembles the banana more than any other common fruit, though the pulp has a different texture and the fruit is smaller than the varieties of bananas commonly seen in this country. The papaw is very generally eaten in the localities in which it grows, but out of hand rather than as a recognized part of the diet, differing in this respect from such wild fruits as berries. Although some may not care for its peculiar flavor, its wholesomeness has been proved by long experience, children being especially fond of it and often eating it in quantity without harmful results.

Historical data. Little³ states that "the settlers in southern Kansas partly subsisted on pecan nuts and papaws" when their crops had failed, and in regard to the use of papaws he says: "It makes a splendid custard pie. There is no finer desert than papaw eaten with cream and sugar. It is used to make beer the same as the persimmon by putting the fruit in a jar, mashing it, and putting water on and letting it stand until fermented. It also answers to make pudding just the same as persimmon pudding⁴ is made. It is also said that brandy equal to peach brandy is made of papaws. Marmalade which is equal to that made of pears or peaches may be made of papaws. The custard [pulp] may be spread on a board and dried like pumpkin leather. Papaws may be kept in their natural state till midwinter or longer by laying them down in oats."

Little gives no more definite data regarding persimmon pudding, but, according to information received from North Carolina, it is commonly prepared according to the following recipe.

³ The Papaw. Cartersburg, Ind.: Orville G. Swindler, 1905.

⁴ Data furnished by Mrs. W. N. Hutt, Raleigh, North Carolina.

PERSIMMON PUDDING

1 cup grated bread crumbs	1 pound persimmon pulp
$\frac{1}{2}$ pound flour	$\frac{1}{2}$ pound sugar
$\frac{1}{4}$ pound butter	2 well-beaten eggs
2 teaspoons baking powder	$\frac{1}{2}$ teaspoon salt

Mix the ingredients and stir well. Steam in a buttered mold two and one-half hours. Serve with hard sauce.

Presumably his papaw pudding was made in a similar way.

Lloyd⁵ gave considerable attention to the papaw and in his study found that all parts of the tree and green fruits contain a volatile oil that imparts a pungent odor. He also states that the bitterness of the bark and of the seeds is due to a bitter extractive, the characteristic constituent of which is an alkaloid to which he gave the name "asiminine." He prepared and studied the physiological actions of asiminine hydrochlorate, finding that a state of excitement and a state of torpor follow the subcutaneous administration of this drug.

Lloyd quotes in his report statements by Hale regarding the wholesomeness of the papaw and statements by Taylor who, though he reports cases of illness or "poisoning" resulting from eating the fruit, is nevertheless of the opinion that when fully ripe the pulp is perfectly satisfactory for food purposes—an opinion in which Hale concurs.

Barber⁶ reports several cases of illness or poisoning (none of them fatal or even very serious), but is of the opinion that a predisposition on the part of the person is necessary. From his report it would appear that in some cases the fruit was eaten unripe and in others overripe, and that, while there was no uniformity of symptoms, the normally ripened fruits are less likely to be harmful. The symptoms of internal poisoning from eating papaws resembled those sometimes occasioned by oysters or strawberries in susceptible persons. He also notes the occasional occurrence of skin poisoning. In one case he reports that the poisoning did not occur unless the person touched the skin in the area of the mouth with the skin of the fruit. This external poisoning varied from a mild urticaria to a condition resembling severe ivy poisoning, and there was no evidence of immunity resulting from previous attacks. A mild poisoning of this sort was noted by one of the authors of this bulletin, who observed that after eating papaws the area around the lips was affected.

⁵ *Drugs and Med. North Amer.*, 2 (1886), No. 2, p. 49.

⁶ *Jour. Amer. Med. Assoc.*, 45 (1905), No. 27, pp. 2013, 2014.

Inasmuch as little information was found in the literature as regards the dietetic value of the papaw, it seemed desirable to determine the composition and nutritive value of this fruit, to test its table and culinary qualities, and to see whether it offered possibilities for more varied and extensive use as food. Papaws grown in the immediate locality of Washington, D. C., were procured for this purpose, and others were obtained from the American Genetic Association, which is interested in a study of the possibilities of the papaw as a cultivated fruit for general use.

Composition. Ten specimens of varying size and degree of ripeness regarded as fair representatives of the fruit were selected. The table which follows shows the weight of the individual fruits and also the weight of the seeds, skin, and pulp.

Weight of fruit, seeds, skin, and pulp of ten specimens of papaw

SPECIMEN	FRUIT	SEEDS	SKIN	PULP
	<i>grams</i>	<i>grams</i>	<i>grams</i>	<i>grams</i>
1	69.5	11.0	6.0	52.5
2	61.0	9.0	5.0	47.0
3	78.0	15.0	4.0	59.0
4	68.0	14.0	4.0	50.0
5	68.0	13.0	3.0	52.0
6	51.0	8.0	4.0	39.0
7	75.0	12.0	9.0	54.0
8	51.0	8.0	4.0	39.0
9	53.0	12.0	4.0	37.0
10	72.0	14.0	4.0	54.0
Average.	64.7	11.6	4.7	48.4
Per cent.		17.9	7.3	74.8

The color of the pulp of the fruits studied varied apparently with the degree of ripeness, ranging from a deep creamy white in the fruit which was slightly unripe, to a very deep brownish cream in the fully ripened fruit. The pulp directly beneath any bruised portions of the skin quickly became very brown and, in one or two fruits which were rejected, almost black. The pulp obtained from the fruits studied was thoroughly mixed, sampled, and analyzed, the results being reported in the following table. Similar data for the edible portion of a number of other fruits are also included for comparison.

It will be noted that the papaw pulp is relatively low in water con-

tent and consequently relatively high in total solids, resembling the banana in this respect rather than the other fruits with which it is here compared. The protein content is noticeably high, while the content of fat, carbohydrates, and ash is within the range for other fruits. The fuel value of the papaw as calculated from the protein, fat, and carbohydrate content by means of the factors commonly employed for that purpose is 435 calories per pound, which is relatively high, the value of the fruits cited above ranging from 135 calories per pound for watermelon to 685 calories per pound for avocado.

Composition of American papaw in comparison with that of some common fruits

	REFUSE	EDIBLE PORTION					
		Water	Protein	Fat	Carbo- hydrates	Ash	Fuel value per pound
	<i>per cent</i>	<i>per cent</i>	<i>per cent</i>	<i>per cent</i>	<i>per cent</i>	<i>per cent</i>	<i>calories</i>
Papaw.....	25.2	76.6	5.2	0.9	16.8	0.5	435
Papaya (West Indian, ripe).....		85.6	0.8	0.3	8.9	0.7	190
Papaya (East Indian, unripe).....		91.5	0.8	0.2	5.3	0.7	120
Apples ⁷	25.0	84.6	0.4	0.5	14.2	0.3	285
Avocado ⁸		79.6	0.9	14.5	4.3	0.7	685
Bananas ⁷	35.0	75.3	1.3	0.6	22.0	0.8	445
Blackberries ⁷		86.3	1.3	1.0	10.9	0.5	260
Lemons ⁷	30.0	89.3	1.0	0.7	8.5	0.5	200
Persimmons ⁷		66.1	0.8	0.7	31.5	0.9	615
Plums ⁷	5.0	78.4	1.0		20.1	0.5	385
Prunes ⁷	5.8	79.6	0.9		18.9	0.6	360
Oranges ⁷	27.0	86.9	0.8	0.2	11.6	0.5	235
Strawberries ⁷	5.0	90.4	1.0	0.6	7.4	0.6	175
Watermelons ⁷	59.4	92.4	0.4	0.2	6.7	0.3	135

A review of the literature gave no information as to the thoroughness of digestion of the papaw, nor were sufficient quantities of the fruit available for studying its digestibility in this laboratory. However, it can be said that when eaten freely by several of the laboratory staff it was not found to cause digestive disturbance, nor was there any indication that it failed to digest as thoroughly as do other fruits. Accordingly, it seems fair to assume that the fruit would be as completely

⁷ U. S. Dept. Agr., Office Expt. Stas. Bul. 28 (1906), rev. ed., with fuel value recalculated.

⁸ Refuse not determined.

assimilated as others in common use, and studies of the digestibility of many types indicate that fruits are, in general, quite thoroughly digested. It would seem, then, that, as the composition indicated, the papaw is relatively rich in nutritive material as compared with other fruits. The data at hand do not indicate that the papaw possesses any specific dietetic value (laxative properties, for example).

Nature of carbohydrates. As the principal food material in the papaw is carbohydrate, it seemed desirable to determine its character. When samples of the papaw pulp were dried at 100°C. the material became somewhat darkened and developed a pleasant caramel-like odor. The relatively high carbohydrate content, 17 per cent, suggested a high sugar content. An analysis of the dried papaw pulp, made by the Bureau of Chemistry, showed that the carbohydrate of the papaw contained about 16 per cent sucrose (cane sugar) and 35 per cent reducing sugars, or 52 per cent reducing sugars after inversion. For comparison it may be stated that, while bananas contain a slightly higher percentage of carbohydrate than the papaw, the well-ripened fruit contains approximately the same proportion of sucrose and reducing sugars as was found in the papaw. The nature of the papaw carbohydrates seems to indicate that they should be very completely and readily assimilated by the human body.

Cooking tests. Papaw fruit was cooked in several ways in this laboratory in order to learn the effect of the different methods on flavor, texture, and palatability. The whole fruit was baked without the addition of spices; the fruit was split lengthwise, placed flesh side up in a shallow pan, spread with sugar, a little cinnamon and allspice, and small pieces of butter, and then baked. The pulp was spread on ordinary pie crust and baked; the pulp, freed from skin and seeds was mixed with milk, eggs, sugar, and a little spice, and used like a custard pie filling; it was also used to replace pumpkin in an ordinary household recipe for pumpkin pie. Some of those who tasted the cooked dishes thought that when used like pumpkin for pie-making the papaw was fairly palatable, but otherwise the methods described did not give satisfactory results. This seemed due to the fact that cooking developed a very pronounced and not agreeable flavor differing from that of the fresh fruit. A more satisfactory way of using the fruit was to beat the pulp to a creamy consistency, mix it with an equal amount of cream, and freeze as ice cream. Thus frozen the characteristic flavor was less pronounced than in the fresh fruit, and even those not

accustomed to eating the papaw pronounced the flavor of the papaw ice cream agreeable.

The available data may, therefore, be said to indicate that heating does not improve, but rather injures, the papaw flavor, whereas chilling makes it less pronounced and, therefore, more agreeable to unaccustomed palates. Thus it would seem that the most suitable way of using the papaw would be uncooked, either for eating out of hand or as a dessert fruit. For the latter purpose it should prove interesting to housekeepers in regions where it is available, to be used plain, with cream and sugar, or as an ingredient of ice cream.

Considering the composition of the fruit, its distinctive flavor, and pleasing texture, it seems to deserve the good opinion in which it is quite commonly held in regions where it is abundant.

Compared with other wild native fruits, the papaw is of large size. This and the fact that the tree is abundant in many regions and the crop generally good indicates that it is worth consideration and further study.

UNITED STATES FOOD LEAFLETS

(FOR TEACHERS AND DEMONSTRATORS)

A new series of publications on food, the United States Food Leaflets, is now in press, issued jointly by the United States Department of Agriculture and the United States Food Administration. The kind of material needed was discussed at a conference of home economics workers in August, 1917, and the plan of the series developed from that discussion. The series is designed to meet the need of extension workers, and of the women's clubs and similar activities, and so to be of service both to the untrained housekeeper in city or country and to the woman who has had more time for the study of food problems.

The leaflets are brief, in general not over four pages, somewhat poster-like in form, and written in simple, nontechnical language. Nevertheless the primary object is not to limit the discussion to simple problems, but rather to make the discussion of all the problems simple.

The leaflets emphasize the choice and preparation of an adequate diet. The method of approach is through a meal or a single food and

then through the consideration of foods in the five groups into which they can be logically divided, rather than through calories, protein, and other similar terms. The more difficult and abstract ideas as to the needs of the body and the nature and nutritive value of foods are introduced very gradually and simply and always for the better understanding of a practical problem. Recipes are used to supplement the text, those chosen calling for the less expensive foods, easy manipulation, and simple kitchen equipment.

The leaflets are a logical development in the Department's plan for translating into popular language the results of technical and professional work, and supplement rather than replace the Department's publications on food and other home problems. The series has been so planned that it will provide a large amount of data fundamental to extension teaching and other popular instruction, relieve extension workers of much of the task of preparing subject-matter, and make for uniformity in the extension teaching carried on under government and other auspices. That these objects may be the better achieved, the Department's extension service and extension workers in the states, and others are coöperating with the Department of Agriculture and the Food Administration.

The following representatives of the Department of Agriculture, the Bureau of Education, the Food Administration, and the home economics departments of agricultural colleges took part in the conference.

Dr. A. C. True	Miss Abby L. Marlatt
Dr. R. L. Wilbur	Mrs. Alice P. Norton
Dr. C. F. Langworthy	Miss Frances Stern
Mr. W. H. Beal	Mrs. Mary H. Abel
Miss Mary E. Creswell	Miss Josephine T. Berry
Miss Florence E. Ward	Miss Isabel Bevier
Miss Hannah L. Wessling	Dr. Katharine Blunt
Miss Emma A. Winslow	Miss Agnes E. Harris
Dr. B. R. Andrews	Miss Flora Rose
Miss Helen W. Atwater	Miss Marie Sayles
Miss Vera B. Spinney	Miss Mary E. Sweeney
Mrs. Henrietta W. Calvin	Miss Martha Van Rensselaer
Miss Carrie A. Lyford	

Miss Ola Powell, Miss Effie Raitt, and Miss Catherine J. MacKay were expected but were not able to be present.

There were, also, a considerable number of other home economics workers who attended the meeting and contributed to the discussion, including the following:

Miss Gertrude L. Blodgett
 Miss Mary W. Thurston
 Miss Gertrude L. Warren
 Miss Melissa E. Farrell
 Miss F. Powdermaker
 Miss Louise B. Pritchett
 Miss Clement

Miss S. A. Donham
 Dr. K. Morimoto
 Miss Katharine A. Pritchett
 Mr. E. G. Routzahn
 Mrs. M. J. Stannard
 Mrs. Miriam N. Loomis

The leaflets are being written under the direction of Dr. C. F. Langworthy, Chief of the Office of Home Economics, by Dr. Katharine Blunt of the University of Chicago, Florence Powdermaker, and Louise B. Pritchett, with the coöperation of Abby L. Marlatt, Mary E. Sweeny, Isabel E. Lord, Mrs. Alice P. Norton, and others representing the Food Administration.

Among the first titles are: Start the Day Right with a Good Breakfast; Do you Know Corn Meal?; A Whole Dinner in one Dish; Choose Your Food Wisely; Make a Little Meat Go a Long Way; Do You Know Oatmeal?; Food for Your Children.

A CONSERVATION DINNER

The men and women interested in home economics in the States Relations Service of the Department of Agriculture, including the Offices of Home Economics, Extension North and West, and Extension South, planned a dinner together that provided an opportunity to become better acquainted with one another, and with the new members of the staff. Many additions have been made to each office staff during the last few months from universities and colleges all over the country.

Naturally, conservation was the keynote, and the menu and decorations and jingles carried out the idea. These rhymes were used on the place cards—"Alice," as usual, proving very adaptable.

I

The Aggies and the Hooverites
 Were looking o'er the land.
 They wept like everything to see
 The waste on every hand.
 "If this were only done away,"
 They said, "it would be grand."

II

"If seventy Aggs with seventy books
 Should bone for half a year,
 Do you suppose," the Aggie said,
 "The food would be less dear?"
 "I doubt it," said the Hooverite
 And shed a bitter tear.

III

"The time has come," the Aggies said,
 "To talk of many things,
 Of what to eat, of calories,
 Of cabbages and kings,
 Of vitamins and sausages,
 And whether costs have wings."

IV

But Home Ec. people hurried up
 All ready for the fray,
 With Aggs and Hooves they did confer,
 They worked the live long day,
 Old H C L to drive away.

V

The Aggies and the Hooverites
 Worked on a month or so,
 And then they launched a big campaign
 To eat less meat
 And save the wheat
 Such meals as this to advocate.

VI

"A one-dish meal," the Home Ecs. said,
 "Is what we chiefly need,
 With fruit and nuts and bread beside
 'Tis very good indeed."
 Now if you're ready, people dear,
 We can begin to feed.

The menu was simple; the idea was taken from a forth-coming United States Food Leaflet. The main course was a Shepherd's pie, "a whole dinner in one dish." For dessert there were fruit, nuts, raisins, and coffee.

Each table was decorated with a peculiar looking animal not usually connected with food. These animals served as an inspiration for jingles.

Oh here is an elephant gray.
 He's an excellent beast for this day.
 He doesn't eat meat,
 And doesn't eat wheat,
 But fills up on peanuts and hay.

A food conserver named Sue
 Went out to visit the Zoo,
 When she saw the giraffe,
 She said with a laugh,
 "What a wonderful neck for a stew."

This brief account is given in the hope that it may be suggestive to others who wish to emphasize conservation informally. A similar dinner might be planned to help in the celebration of December 3, Mrs. Richards' birthday.

FOR THE HOMEMAKER

WHAT ABOUT KATIE?¹

MARY ALDIS

Scene: A kitchen, neat, bright and attractive.

Time: Nine o'clock of a summer's morning.

DRAMATIS PERSONAE

Katie, Cook to the Wilsons, comely, middle-aged and capable.

Mrs. Edward Wilson, young, chic, intense.

When the curtain rises Katie is discovered seated in a rocking chair peeling potatoes and singing. She sings louder and louder rocking in time and peeling faster and faster to keep up with her song. In her musical enthusiasm, the potatoes grow smaller and smaller as they issue from the curling peel. Finally, one is so small that it seems hardly worth boiling. Katie holds it up for inspection then throws it in with the peelings, and continues singing "Wearin' o' the Green."

Mrs. Wilson enters. She is dressed in a becoming street suit and looks very pretty but there is a serious and determined air about her that is quite impressive. One feels great things in the air.

Katie stops rocking and singing, puts the pan of potatoes on the table and rises.

Mrs. W.: Good-morning, Katie.

Katie: Good-morning, Ma'am.

Mrs. W.: Katie, I've just been to a most wonderful meeting. I'm afraid that we shall have to think about food much more seriously than we have been doing. We are at war you know. (She eyes the peelings.)

Katie: I know, Ma'am, and isn't it the great pity—all the foine young fellows leavin' to go off to the war? I was watchin' them go by—it's enough to make the heart in you heavy with aching, Ma'am.

Mrs. W.: Yes, Katie, it is pretty terrible, and we at home must think about doing our share—

¹ Reprinted by courtesy of the *Chicago Examiner*.

Katie: Our share? An' isn't it my own sister's husband gone with the Battery he was after joinin' and her with two wee'ns and me givin' her half me wages—

Mrs. W.: Why Katie, how dear of you! I didn't know you did that. It's terribly nice of you.

Katie: We all have to help, Ma'am. (She wipes her eyes.)

Mrs. W.: And we must help in another way besides that way, you and I, Katie, right here in this kitchen; we must help conserve the food supply.

Katie: Ye mean put up some jam, Ma'am?

Mrs. W.: No, not exactly, although that's part of it: I mean we mustn't waste so much.

(Katie squares herself at the word.)

Katie: "Waste so much!" Well, what do you think of that? Me waste? Me, that puts every thing that comes off the table into the ice-box straight, to keep for tomorrow!

Mrs. W.: Yes, Katie, I know you put some things away but it is the little things, the leakages, the crusts of bread, that count—we mustn't throw those away you know. (She takes a big breath and gathers her courage.) Those parings there, why Katie, there's nourishment in them, good food, it's wicked to throw them away.

Katie: Wicked? To throw away potato peelings?

Mrs. W.: Certainly, very wicked.

Katie: Well thin, I'll have to be addin' a new sin the next time I go to confession! It's a foine lot of peelin's I've thrown away in my time. I dunno will the priest give me absolution at all. An' what was that other thing you said? About leaks? There ain't no leaks.

Mrs. W.: No, no, I didn't mean that way! Now, Katie, let's have a good talk about it. I want you to help me in conserving the food supply of the nation. It's our duty, our bounden duty. You want us to win this war, don't you?

Katie: Shure I do.

Mrs. W.: Well then, you must do your share.

Katie: Will the war be over quicker, do you think, an' I don't throw out them potato peelin's? Lord O' Mercy, think o' all them that's gone out already!

Mrs. W.: Oh I know, I know! Katie, do you know that SEVEN HUNDRED MILLION DOLLARS WORTH OF FOOD (each word is spoken more solemnly than the last) IS THROWN AWAY, WASTED, EVERY YEAR?

Katie: (opening her mouth) An' who would be throwin' away all that great lot o' money?

Mrs. W.: You and I, Katie—right here in this kitchen.

Katie: I never threw no money away, Ma'am, I'm sure of that. An' I only lost it once, that time you gave me fifty cents for th' expressman, an' when he came, I never could find it at all, but I never threw it away.

Mrs. W.: No, no! I mean that, those peelings! (She points dramatically to the pan between them.) (Katie takes up a curl of potato and looks at it wonderingly, almost with awe.)

Katie: Now who would ever a' thought they was worth such a lot! Howly saints, won't I be after talkin' to that garbage man. It's a rich man he must be! Isn't it a whole pailful o' peelin's I put in just yesterday? Maybe if they ain't spoiled, I could get 'em back Ma'am, would I be telephonin' do you think?

Mrs. W.: No, Katie, there is no making up for the wrong we have done in the past, and you and I have done very wrong. It's all clear now, we must resolve to do differently and keep our resolve.

(She looks truly inspired as she says this last.)

Katie: Yes, Ma'am, but I can't get used to the idea o' potato peelin's bein' worth all that money and nobody never told me! What'll I be doin' with these? (She holds out the pan, handling it with the greatest care.)

Mrs. W.: I don't know exactly. Perhaps now they're off, they'll have to be wasted. I'm not quite sure. Miss Blount didn't say anything about that.

Katie: Is that the lady that comes to talk to you an' the others about housekeepin' and gives you the little books? Well I'm thinkin' it's never the inside of a kitchen she's 'seen! She an' her talk! I read the book like you told me to, she's for feedin' people with calories every day o' the week. I've been cookin' for going on fifteen years an' I never heard tell of a calorie.

Mrs. W.: It's a kind of a measure, Katie, like a, like a pint cup, only different. Now a pat of butter is a hundred calories and a potato is a hundred and a thin slice of beef, oh dear, I've forgotten, but anyway I'm sure it's a measure, and if you don't have the roast beef, and we can't have it often at all, Katie, because we must save it to send to the Allies, why then you see, as I was saying, we must have something else, substitute you know, something just as nourishing because, of course, you can't let your husband go hungry when he comes home tired from his work can you?

Katie: No, Ma'am.

Mrs. W. (enthusiastically): Well then substitute! How about macaroni and cheese, palatable and highly nutritious, or fish, fried fish, fried in drippings, of course, and creamed sauce, a most excellent dish, and you might put some bacon around. Oh no, I forgot, we mustn't have very much bacon, well we'll find something else.

Katie: Mrs. Wilson dear, please explain to me what in the world you are talking about?

Mrs. W.: Did I go rather fast? I was trying to remember what she said yesterday, I'll ask her the next time she comes for the class. She knows a lot about these things Katie, she really does. Let's see, we began about waste, didn't we? Katie, I saw a sign up on the wall yesterday, it was a terrible sign, it has haunted me and it will always haunt me on account of the past. *What* do you think it said?

Katie: I dunno, Ma'am.

Mrs. W.: *This* is what it said: IT IS AN ACT OF TREACHERY TO THE NATION TO WASTE A CRUST OF BREAD!

Katie: The Saints deliver us! Will the police be here soon, do you think? (She looks around nervously.) Oh I'll never do it no more, Ma'am, I never will! Oh dear, oh dear, think o' all them crusts gone along the same way as the peelin's.

Mrs. W.: Now, Katie, we will go and look in the garbage can and see if there are any there.

Katie (hastily): Let me go and bring it in to you, Ma'am, I won't be a minute.

Mrs. W.: No, Katie, we will go together, you and I. We are both to blame, gravely to blame!

(Solemnly, Mrs. Wilson leading, they disappear rearwards, to reappear in a moment, in the same relative position. Mrs. Wilson bears the garbage pail, both are looking into it.)

Mrs. W.: It is almost full! I feel terribly—just terribly. And I signed that pledge yesterday at the big meeting after the speeches, it was so exciting, everybody signing and resolving to save so there wouldn't be any war and all the while right in my own kitchen. Oh, Katie, it's awful, perfectly awful! Don't you see how awful it is? (She looks tragically into the pail and holds it out in despair.)

Katie: I washed it out yesterday.

Mrs. W.: No, no! You don't understand, you don't understand a word I say! (She gathers herself together.) Now Katie we're going to

go through this can right here and we are going to analyze the contents. From now on I'm going to keep house, I never have before.

Katie: What are we going to do, did you say, after we empty it?

Mrs. W.: Analyze! See *how* treacherous we've been. Oh Katie, all those things in there, they aren't mine to do *that* with, just because I paid for them, they used to be but they aren't any more—don't you *see*?

Katie: No, a' course they aren't, they're that wicked, deceivin' garbage man's! The old spalpeen! Makin' you pay him fer takin' the swill away in his little cart, like as if he thought it wasn't any good and all the while hoardin' up riches sellin' potato peelin's!

(Mrs. W. has been poking about in the can with a long spoon and a deeply dissatisfied expression. She now extracts and holds up a damaged half slice of toast, somewhat the worse for contact with coffee grounds. She looks at Katie with a terrible expression.)

Katie (with another anxious look around): Let's burn it up Ma'am an' then the police won't never find out!

Curtain.

COMPARATIVE COST AND FUEL VALUE OF FOODS

Many housekeepers will find of value the following table prepared by the Food Administration showing the comparative cost and energy values of fifty foods.

Bread is taken as the standard of comparison, and is called 100. The cost per pound of all materials is based on the average prices current in 25 places throughout the country on August 1. The column at the right gives the percentage cost of energy from the different materials as compared with that from bread, at the prices quoted.

In using such a table, it must be remembered always that the fuel value or calorie value is only half the story. Milk, for instance, would stand practically at the head of the list if its protein (or muscle-building) value were considered. To choose wisely one must know not only the amount of energy that may be obtained for a given sum, but the form in which this potential energy is offered to the body.

FOODS	CENTS PER POUND	PERCENTAGE COST OF ENERGY
Corn meal.....	6.1	47.4
Rolled oats, bulk.....	6.9	48.4
Wheat flour.....	7.1	55.1
Hominy grits.....	7.7	61.5
Graham flour.....	7.9	61.5
Rye flour.....	7.8	62.8
Sugar, granulated.....	9.4	66.7
Corn syrup.....	8.1	71.8
Pearl barley.....	10.7	84.6
Pure leaf lard.....	27.1	84.6
Rice, fancy head.....	10.7	85.9
Cottonseed oil.....	29.9	96.2
<i>Bread</i>	9.3	100.0
Macaroni, bulk.....	12.7	100.0
Corn oil.....	31.0	100.0
Crackers, bulk, soda.....	16.5	111.5
Oleomargarine.....	30.9	116.7
White potatoes.....	3.3	141.0
Evaporated apples.....	14.8	143.6
Lima beans.....	18.5	150.0
Navy beans.....	19.5	159.0
Italian olive oil.....	51.2	164.1
Creamery butter.....	45.7	167.9
Prunes, medium sized.....	15.8	174.4
String beans, canned.....	12.8	175.6
Comb honey.....	21.4	185.9
Cocoa, bulk.....	29.0	191.0
Cheese, American.....	31.8	196.2
Sweet potatoes.....	7.0	198.7
Milk.....	5.3	219.2
Pineapples, canned.....	13.6	243.7
Ham, sliced.....	40.3	271.8
Salt mackerel.....	21.9	230.8
Pork chops.....	30.3	315.4
Onions.....	5.1	326.9
Corn, canned.....	12.5	364.1
Leg of mutton.....	29.0	426.9
Salmon, Red Alaska, canned.....	24.1	466.7
Salmon.....	24.9	498.7
Leg of lamb.....	32.8	500.0
Beef, round steak.....	28.0	552.6
Eggs, fresh gathered.....	26.4	564.1
Peas, canned.....	11.8	605.1
Sardines, domestic.....	49.2	684.6
Halibut.....	24.5	697.4
Peaches, canned.....	14.2	728.2
Whitefish.....	13.2	729.5
Salt cod.....	20.9	744.9
Veal cutlets.....	33.5	859.0
Tomatoes, canned.....	9.6	1,230.8
Chicken, broilers.....	34.5	1,524.4

THE CONSUM VEREIN SHOP (AND THE LADY)

ELLEN HOWARD WILSON

We became acquainted with the *Consum Verein* as soon as we began housekeeping in Zurich.

It was on the Fourth of July that we took possession of our "wohnung" as they called the wonderfully complete and attractive apartment, the possession of which made us for the time being Swiss citizens. After we had made a careful survey of the rooms and halls, my husband and I left our young people engaged in putting up the American flag and singing patriotic songs, and went out to look up shops and procure provisions.

"We will walk around and see how the land lies," said R. Being a man he disliked asking questions of the passersby. Taking a street to the right of Weinbergstrasse, we stopped at the end of the first block to look around us.

Just before us was one of the usual large cement buildings which are such a feature of the beautiful white city. On the ground floor there was a small unpretentious looking shop, which bore above the doorway the sign—Consum Verein. It must be the provision store of some club we thought, and after a glance at the pleasant-looking woman who stood behind the counter we walked on. At the corner at the next block there was a similar shop and before we came back to our corner of Weinbergstrasse we had passed a third. By this time we had concluded to try one of these shops and we chose the one which we had seen first, which was also the nearest to our home. Entering behind an old woman with a basket, we found the small enclosure almost filled with "all sorts and conditions of men." Our pleasant-faced "Consum Frau" was serving everyone in regular order, no matter whether the customer was a tiny aproned boy or a well dressed lady. Most of these people carried books in which the "Consum Frau" wrote down their purchases. On the wall was a large printed list of articles with the prices.

When our time for being served came at last, we found that practically all articles of food, except meat, could be found here. This seemed very strange until we learned that these shops were supplied every day from Basle, where the Consum Verein society, the society for purchasing and distributing food throughout Switzerland, had its headquarters.

After this first day I saw our Lady of the Shop almost daily. She was always pleasant and often offered helpful suggestions, as that the "block chocolade" was both better and more economical for the children's breakfast than the ordinary chocolate or cocoa. Nor do I believe that all of her obliging ways came from the fact that she was paid something above her salary, according to the amount of her sales. Of course if she had not been both efficient and accommodating her customers would have drifted to the nearby stores, where they would have found just the same articles and the same prices. The other Consum Verein women—they were all women—were polite enough but we did not think them quite equal to ours.

She was quite distressed when we forgot the book. "You will lose some of your percentage," she said. This did not make very much impression on me and I promised the children all the percentage we should ever receive. When we were leaving for Italy, months later, our Frau insisted on having the book back and she said again, "You will get your money down in Italy;" and she was right, for after we had been some weeks in our villa on the Mediterranean, I received a little express package from Zurich, and the children had plenty of change for Italian souvenirs.

WHAT THE FOOD SITUATION IS

The men of England, Scotland, Ireland, France, Italy and Belgium are fighting; they are not on the farms. The food production of these countries, our Allies, has therefore been greatly reduced. Even before the war it was much less than the amount consumed. The difference was supplied by the United States, Canada, and other countries, including Russia, Roumania, South America, India, and Australia.

This difference is now greater than ever, and, at the same time, food can no longer be obtained from most of the outside countries.

Therefore our Allies depend on North America for food as they have never depended before, and they ask us for it with a right which they have never had before. For today they are our companions in a great war against a common enemy. For the present it is *they* who are doing the fighting, the suffering, the dying—in *our* war.

One million of the finest young men in the United States will soon be fighting side by side with the millions of brave soldiers of France, Great Britain, Belgium, Italy, and Russia.

Millions of the men, women, and children of the United States can not go abroad and fight the enemy face to face. But they can fight by helping the fighters fight.

France, Great Britain, Italy, and Belgium must now import 60 per cent of their breadstuffs instead of the 40 per cent they imported before the war. America must supply the greater part of this need. To send them the least that they can live on we must increase our export of wheat from 88,000,000 to 220,000,000 bushels.

We can not send them corn because they have not enough mills to grind it. We can not send them corn meal because it spoils in shipping. The oats, rye, and barley, that we send will not support them unless mixed with wheat. **WE MUST SEND THEM MORE WHEAT, and to do this WE MUST EAT LESS WHEAT BREAD.**

Because of the lack of fodder and the increased need of meat to feed the soldiers and war workers, France, Great Britain, Italy, and Belgium have on hand today 33,000,000 less head of stock than they had before the war. Their herds are still decreasing in spite of the fact that we are now sending them three times as much meat as we did before the war. We must send them more meat this year than ever before.

The chief source of fats for eating is in dairy products. We are able to produce no more of these now than before the war. Yet last year we sent our Allies three times as much butter and ten times as much condensed milk as we used to send them. Because their milk cows are still decreasing we must send even more butter and condensed milk this year. Because their hogs are decreasing we must send them more lard.

Before the war France, Italy, and Belgium raised all their own sugar. Great Britain bought sugar from Germany.

Now France, Italy, and Belgium can not raise much sugar because their men are fighting and Great Britain can not buy sugar where she used to buy it. All must now get sugar where we get it, and there is not enough to go around unless we save.

HOW YOU CAN HELP

Have at least one meal a day without wheat bread. Use instead corn, oat, rye, barley, or mixed cereal breads.

Eat less cake and pastry.

Order wheat bread from your baker at least twenty-four hours in

advance so that he will not bake too much. Cut the loaf of wheat bread on the table. Use all stale wheat bread for toast or cooking.

If every person in America consumes 4 pounds of wheat flour a week instead of five, we can ship the 220,000,000 bushels which our soldiers and our Allies must have.

Eat fish and other sea food, poultry, and rabbits, instead of beef, mutton, and pork. Fish and chicken can not be shipped in compact form like meat, and are more perishable.

Do not use either beef, mutton, or pork more than once a day, and then serve smaller portions. Use all left-over meat cold or in made dishes. Use more soups. Use beans; they have nearly the same food value as meat.

Remember that no grain or other human food was used to feed the fish that gives you nourishment. Save the products of the land.

Use no butter in cooking except left-overs that would otherwise go to waste. Cook with olive or cottonseed oil instead. Save lard by eating less fried foods.

Try to use up all left-over fats in cooking, but if there is some you can not use save it carefully, make scrubbing soap out of it, or sell it to the soap maker.

If every person in America saves one-third of an ounce of animal fat a day we can ship enough for our soldiers, sailors, and Allies.

Cut down on candy and sweet drinks. Eat half as much sweets as before and you are still eating more than the Englishman or Frenchman gets.

Use honey, maple sirup, and corn sirup on the breakfast table instead of sugar.

Serve cake without frosting or icing. Eat plenty of fruit.

If every person in America saves an ounce of sugar a day our soldiers, sailors, and Allies will be provided for.

The railroads can not carry coal to you and also handle military supplies in the quickest way. Help by burning less coal.

Coal supplies power for electric light and steam heat. Turn off both when you don't need them.

If you can get wood, use it instead of coal.

EAT PLENTY, WISELY, WITHOUT WASTE, AND HELP WIN THE WAR.

United States Food Administration.

EDITORIAL

A Hidden Lesson. There is a lesson that does not directly appear upon the surface in the account of the results of the saving in some of the great hotels by the observance of meatless and wheatless days.

Saving of more than a ton of meat on its "meatless Tuesday" and of five barrels of wheat flour on "wheatless Wednesday" is reported by the Biltmore hotel, New York City, by its entry upon the Food Administration's campaign to conserve these staples for export to our Allies.

On the last meatless day at the Biltmore, 1927 pounds of various meats were saved, as estimated by a comparison with the normal daily consumption of the same number of guests. The saving in the servant's dining-rooms was 695 pounds. The guests served numbered 2866, giving an average saving per person of $10\frac{1}{2}$ ounces. The greatest saving was in beef, amounting to 1137 pounds.

On one Wednesday, a wheatless day, 4011 persons were served at meals and at tea, with an average saving of $4\frac{1}{4}$ ounces, or a total of five barrels of wheat flour. The Biltmore and several other hotels have substituted rye, potato, barley, and rice flours for wheat, not only in breads, but in pastries.

This is a conservation measure that is worth while, but what of the custom that allows $10\frac{1}{2}$ ounces of meat for each person, when in the ordinary household from 4 to 6 ounces is considered sufficient?

Four and one-seventh ounces of flour means between 6 and 7 ounces of bread, and as this is evidently the saving for each person at a single meal, and these are not the people who are living on a largely cereal diet (the least expensive diet) it would seem that here, too, wasteful customs have grown up.

The Sugar Shortage. The Allies' need for sugar has become imperative. Before the war, with the exception of England who imported from Germany, they raised their entire supply.

When France can give her people only $\frac{1}{2}$ ounce of sugar daily, and England and Italy's ration per day is 1 ounce, we in the United States can not go on consuming 4 ounces per day for each person. It is unthinkable that we should do so.

There will be only a limited amount of sugar on the market until the middle of December. The United States normally produces less than one-half of all she consumes. She must look to Cuba and the West Indies for the remainder. Last year's supply is about exhausted. If

France and England have sugar in the meantime, every woman in America must see that each member of her household reduces the daily amount, usually eaten, by at least 1 ounce, or better by 2 ounces.

The Food for France Fund. Last month we noted an opportunity for giving to France, for those who could more easily send the product of their hands than money.

Carita Spencer, who is in charge of this fund, writes us that she has been obliged to discontinue sending directly to France canned and other goods that she has received, both on account of the difficulty of transportation and for other reasons. She is, however, selling these in New York, and sending the money to France, so that either money may be sent here, for the Fund, or jams, jellies, and household canned goods may be furnished, and the full proceeds of the sale of these will be contributed.

THE QUESTION BOX

Question: What is the effect on the vitamins in vegetables of the use of soda in cooking?

Answer: Present theories regarding the water-soluble food accessory—"vitamine"—hold that this material exists in at least two forms. In one form it is destroyed by dilute alkalies at the boiling temperature. In another more stable form it apparently is unaffected. Investigations, aimed to determine the conditions affecting this material, are being carried out in several laboratories at the present time. As to what proportion of the "vitamine" is destroyed by cooking vegetables in water to which cooking soda is added investigators have not yet reported. However, in our laboratory, rats fed a ration consisting of 60 per cent of soy beans cooked in water to which enough cooking soda was added to give a distinctly alkaline reaction to the entire mixture grew over a period of many months quite as well as those animals given a similar diet to which no cooking soda had been added. Obviously all of the water soluble food accessory could not have been destroyed in the beans to which the cooking soda had been added.

For references see Williams: *The Chemical Nature of the Vitamines. Jour. Biol. Chem.*, 29 (1917), p. 495; Steenboch: Antineuritic substances from Egg Yolk. *Ibid.*, xxviii.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Household Manufactures in the United States, 1640-1860. A Study in Industrial History. BY ROLLA MILTON TRYON. Chicago: University of Chicago Press, 1917, pp. 413. \$2.00. By mail of the Journal, \$2.10.

In this significant historical study Professor Tryon has added one more to the rapidly growing number of works treating of the family institution in some one of its phases. As its title suggests, the book discusses the development of manufacturing industries within the American home from early colonial times through the transition period following upon the War of 1812, when the factory system of industry gradually supplanted that of the household. One of the chief merits of the book to the student of industrial history lies in the fact that the author has wisely placed his study in its larger economic setting, thus avoiding the mistake of divorcing household industry from the geographical, economic, and political conditions which determined its character and its evolution. Thus the opening chapter describes briefly, but in sufficient detail, England's repressive acts, directed against any general shop or factory manufacturing in her colonies, and the effect of this grasping economic policy in promoting manufacturing within colonial homes. This tendency was also furthered by a deliberate policy of legislative encouragement in many of the colonies. Other influences at work to promote household manufactures were the sharp decline in immigration after 1640 and the inadequate facilities for transportation of English goods, both of which operated to throw the colonists

upon their own resources to a considerable extent.

Having thus laid his historical foundation, the author discusses, in a valuable chapter, the "Status of Household Manufactures in the Colonies" from their humble beginnings to the close of the Revolutionary War. Early colonial legislation to encourage home manufactures is described with some detail. There follows a helpful account of the conditions which led to the appearance of two well-defined geographic and economic divisions,—the colonies north of Maryland, where household manufacturing made great progress from 1700 to 1765, and those south of Pennsylvania where the development was so slow that it "never gave the mother country much concern."

One of the most suggestive portions of the chapter discusses the tremendous impetus given to domestic manufactures by the Stamp Act, the Townshend Acts and the bitter political controversies following upon these measures. Interesting accounts are given of the "spinning bees" inaugurated by the Daughters of Liberty in New England in their efforts to crystallize sentiment in favor of home-made goods; and a few figures are cited, taken from contemporary writings, to show the large output in linen and woolen cloth of many colonial homes, from Massachusetts to Virginia, during the crucial years after 1765.

The succeeding chapter traces the "Quarter Century of Developments" from 1784 to 1810, during most of which period home manufacturing, especially of textiles, flourished almost without a setback. There follow valuable chapters on "A Year's

Output of the Family Factory," "The Products of the Family Factory," "The Transition to Shop and Factory Made Goods," and "The Passing of the Family Factory." At the end of the book are a careful bibliography of primary sources and secondary authorities and an excellent index.

Professor Tryon's work represents a genuine contribution to our knowledge of household industry in relation to community and national economy. The author has drawn upon a rich field of source material and has supported every important statement with satisfactory evidence. Perhaps the most valuable portions of the book are the carefully prepared tables showing (1) the change in value of exports from and imports to Great Britain in selected periods; (2) the kinds, amounts, and value of household manufactures in the United States in 1810; (3) the total and per capita value by counties of household manufactures in the United States in 1840, 1850, and 1860, based on census reports.

So painstaking and thorough a study should be welcomed by college and university instructors in household economy as well as by teachers of industrial history.

WILLYSTINE GOODSELL,

*Assistant Professor of Education,
Teachers College, Columbia University*

Dressmaking as a Trade for Women in Massachusetts. By MAY ALLINSON, Ph.D. Boston: Women's Educational and Industrial Union, 1916, pp. 180. (Vol. 4 of *Studies in Economic Relations of Women*, Bulletin of the United States Bureau of Labor Statistics, No. 193). \$0.80. By mail of the Journal, \$0.86.

Now that the little volumes embodying the results of the Cleveland Survey have set such a high standard of excellence in both matter and make-up, the present reviewer could wish that her task had been set before comparison was possible.

Although it bears the imprint of the Women's Educational and Industrial Union, Boston, "Dressmaking as a Trade for Women

in Massachusetts" conforms to the general type of United States Labor Bureau bulletins under a somewhat more attractive cover.

While the subject matter is interesting and well-organized from the sketch of the evolution of the trade through discussions of the industrial, economic, and educational aspects of its conduct in Massachusetts to summary and outlook, the reader needs to bear in mind that it is all of interest as historical matter only. Written in the present tense, the frequently recurring "today" denoting the years from 1909 to 1914, it will best serve as a milestone to measure for us the great forward strides which have been taken in trade conditions and trade training during the last decade.

When a trade is in such a prosperous state that workers cannot be obtained at any wage; when over-time, under-pay, and unsanitary conditions are banned by law and can only continue with the consent of the workers; when a single trade school enrolls over a thousand students and places more than five hundred in business in a single year; when a beginner in the dressmaking shop may advance from seven dollars a week to ten or eleven in two or three seasons, conditions are so different from those upon which this thesis is based that neither criticism nor comparison is fair or worth while.

For instance, we who are in the thick of the fight cannot agree that "dress-making is such a skilled trade that it can utilize very few young girls," for we cannot supply the demand for these same young girls who, after a few months training, become so skilful that with their young eyes and fingers they are preferred to older women. Neither can we permit "many who must earn as soon as the law allows . . . to enter unskilled industries," when we know that this means the almost certain loss of these girls to skilled industry forever, and the even more serious loss to the girl of that progress in skill and efficiency which will be of immeasurable value to her as the manager of a household.

Again, the thesis declares that "four social agencies are . . . notably needed at the present time: (1) Day trade schools which can hold and train the child. (2) Social agencies which can keep ambition and courage kindled. (3) Bureaus of information, vocational advice and guidance. (4) Educational agencies providing part-time schooling." Boston has had each and every one of these agencies in operation for a number of years,—trade schools, day and evening, for boys and girls, men and women; settlements, social centers, societies of many names, but all working in the closest co-operation for the guidance and protection of youth; placement bureaus and secretaries; vocational guides and advisers, pre-vocational, part-time and continuation schools, most of which meet the needs of the State as well as of the city.

It is perhaps unnecessary to add that the suggestions contained in the "Summary" embody the principles which have been developed by the leaders of vocational education and guidance since the Douglas Commission began its work for Massachusetts in 1906.

If theses of the type of that under discussion, written to fulfill the requirements for a college degree, must be published, it would increase their usefulness and save them from the fate of being shelved, could they be published either in full or in part by the daily or monthly press.

We must hope that all of the time and effort and intelligent investigation put into this *Bulletin* may prove helpful to other States who may not be so advanced in vocational education and labor legislation as Massachusetts.

FLORENCE E. LEADBETTER,
Boston Trade School for Girls.

Dressmaking. BY JANE FALES. New York: Charles Scribner's Sons, 1917, pp. 508. \$1.50. By mail of the Journal, \$1.63.

With this book Miss Fales has added to the list of texts available to high school and college teachers one in which the technique of dressmaking is very fully set forth.

The broadest study of dressmaking must

include the study of form, color, and materials, as well as the technique of garment making; these subjects are all treated more or less fully.

The book is divided into three parts, preceded by an introduction. The introduction briefly tracing the development of the art of dressmaking might really be included in Part I which deals briefly with the historic development of costume, giving illustrations and descriptions of the costumes of different periods. In Part II, Textiles, one chapter is devoted to textile manufacture, giving the detailed processes in the construction of yarn; the other, to textile economics, dealing with the characteristics of different fibers and the fabrics woven from them. Part III, Dressmaking, discusses very fully the technique of pattern making, designing and draping, cutting, fitting, and the making of waists and skirts, with a final chapter on embroidery and methods of finishing.

The part of the book which deserves special mention is that dealing with dressmaking. Assuming that the student has a knowledge of sewing, the directions for making waists and skirts of various types include every possible step to be taken and are not only very full, but are clearly expressed and so written that changing fashions will not make them useless.

The discussion of form is brief, and might well be more fully illustrated, the important subject of color is barely touched, and in the arrangement of subject matter these discussions would seem logically to come immediately after the discussion of historic costume design, instead of being separated from it by a number of chapters on other subjects.

CHARLOTTE G. BAKER.

The Mothercraft Manual. BY MARY L. READ. Boston: Little, Brown and Company, 1916, pp. 440. \$1.25; By mail of the Journal, \$1.35.

The value of this book can be rightly estimated only when it is studied in relation to the new educational movement for

which Miss Read has coined the term *Mothercraft*. While the term itself is generally considered objectionable, the movement which it aims to designate is receiving high commendation from an ever-widening group of child specialists, educators, social workers, and the public generally. Its purpose is to train young women in the care and education of children both in home and civic life. At present there is no place where an educated young woman can learn both theoretically and practically the scientific care of *well* children, although she can in a hospital learn the scientific care of *ill* children. In time such a training will undoubtedly be considered an essential part of every homemaking course, as well as every course preparatory to child-welfare work.

It is at this juncture when this movement is in its infancy that Miss Reed has endeavored to formulate such a course of training in her "Mothercraft Manual." In general outline, it is very like that followed in similar courses given in the schools in Germany and in England after which the Mothercraft School in New York City (now discontinued) was mainly patterned. These foreign schools are primarily kindergarten training schools, but differ from those in this country in that they stress the *nurture* of the child and home training for girls.

The *Manual* is necessarily wide in scope, so wide that no one person could speak authoritatively on all of the subjects covered, and we seriously question the wisdom of the attempt to do so. Considered as a compilation of much valuable material to be used in the course of training under discussion, and so used by a person trained to discriminate, it proves highly suggestive. Such a use of the book has been made by a trained nurse who has specialized in child hygiene in one of our foremost hospitals. Her class of twenty-five kindergarten students was greatly interested in the course, the outline of which other trained nurses are now using in their classes of mothers. To those who are training teachers of little children the book is also highly suggestive.

For the untrained mother, however, it is doubtful if it will prove of special value. Facts are so closely packed that there is little chance for that play of expression which sends the thought home. In fact, one needs to be seriously interested before reading the book, for any appeal is lacking. It is essentially a study book. Even the serious-minded mother would probably soon come to the conclusion that the advice given is too impractical, too idealistic for her to follow in her busy life.

In our judgment, therefore, the especial value of the book is in courses where young women are trained in the education and hygienic care of children. The standard set is high, but once established it can be modified by the individual as the every-day experience in the home necessitates.

Miss Read makes a general acknowledgment to different authorities—and some are names to conjure by—but all through the book one finds statements which excite question as to who is the authority. As no one has time to trace these to their source, the book is necessarily discounted to that extent. A case in point is the "toxin-free" diet listed on page 67. Recent criticism (*Survey*, March 10, 1917) has brought out the fact that this diet is advised by the Battle Creek Sanitarium. Naturally we feel better satisfied to know its origin.

For ourselves, we, like others, take exception to certain statements. For instance, we have understood that a ball, suspended as in the illustration on page 63, is injurious to a baby's eyes. We wonder if anyone knows of babies who cry for ten minutes on schedule time! (page 88). It would be interesting to see how a certain learned official would fit this schedule into the house-wife's eight-hour day! (See editorial, *JOURNAL*, February, 1917.)

We think that Miss Read is premature, to say the least, when she gives Montessori equal rank with Froebel, Hall, and Dewey (page 197). Beside these apostles of play, it is strange to see the name of one who said, "If I were persuaded that children needed to play, I would provide the appa-

ratus, but I am not so persuaded." We confess that a close study of Dr. Montessori's doctrine, illuminated by first-hand knowledge of her schools abroad and in this country, leads us to make a different estimate of her contribution to philanthropic education, valuable as this is in certain respects.

On the whole, the book assumes a position that it cannot maintain in that it essays to speak authoritatively along lines on which we are just feeling our way. Whereas in child hygiene it is safe to proceed with some assurance, in child study the footing is very uncertain. Studies of individual children under home conditions have been made by a few parents, and studies of many children in an unnatural environment have been made by trained observers, but as yet no studies of a number of children in a natural environment have been made by trained observers. Child psychology awaits this development. What is known scientifically about child hygiene is mainly in the possession of doctors and nurses, and what is

known scientifically regarding child education is mainly in the possession of teachers. Both of these groups have succeeded to some extent in passing on this knowledge to mothers. It is the combination knowledge of these two groups that Miss Read has endeavored to embody in her "Mothercraft Manual," a task which only a dauntless person would dare undertake. The measure of success attained gives the book a distinctive place in this movement.

ELIZABETH JENKINS,

*Formerly Principal Kindergarten Training College,
Sidney, Australia.*

The Ten Lessons on Food Conservation, published by the Food Administration especially for the use of the summer normal schools, have been issued in one pamphlet, and can be obtained free of charge by writing to the Food Administration. There are also printed separately about 1000 copies of Chapter IX, on An Adequate Diet.

BOOKS RECEIVED

- The Administration of Secondary-School Units.* By Leonard V. Koos. Chicago: The University of Chicago Press, 1917, pp. 194.
- The Baby's Food.* By Isaac A. Abt, M.D. Philadelphia: W. B. Saunders Company, 1917, pp. 143. \$1.25. By mail of the Journal, \$1.30.
- Cakes, Pastry and Dessert Dishes.* By Janet M. Hill. Boston: Little, Brown and Company, 1917, pp. 276. \$1.50. By mail of the Journal, \$1.60.
- My Family Account Book.* By Blanche Geary. New York: The Womans Press, 1917, \$.50. By mail of the Journal, \$.56.
- Food for the Sick.* By Solomon Strouse, M.D., and Maude A. Perry. Philadelphia: W. B. Saunders Company, 1917, pp. 270. \$1.50. By mail of the Journal, \$1.60.
- Personal Hygiene.* By American Authors. Edited by Walter L. Pyle, M.D. Philadelphia: W. B. Saunders, 7 ed. rev. and enlarged, 1917, pp. 555. \$1.75. By mail of the Journal, \$1.92.
- Practical Food Economy.* By Alice Gitchell Kirk. Boston: Little, Brown and Company, 1917, pp. 246. \$1.25. By mail of the Journal, \$1.33.
- Production and Thrift.* Published by direction of the Minister of Agriculture, Ottawa, Canada, 1916, pp. 250.
- Successful Canning and Preserving.* By Ola Powell. Philadelphia: J. B. Lippincott Company, 1917, pp. 372. \$2.00. By mail of the Journal, \$2.18.
- War Food.* By Amy L. Handy. Boston: Houghton Mifflin Company, 1917, pp. 76. \$.75. By mail of the Journal, \$.79.

PAMPHLETS RECEIVED

Issued by the United States Department of Agriculture:

Fresh Fruits and Vegetables as Conservers of Other Staple Foods. By Caroline L. Hunt. Farmers' Bulletin 871.

How To Select Foods. III. Foods Rich in Protein. By Caroline L. Hunt and Helen W. Atwater. Farmers' Bulletin 824.

Preservation of Vegetables by Fermentation and Salting. By L. A. Round and H. D. Lang. Farmers' Bulletin 881.

Issued by the United States Department of the Interior, Bureau of Education:

Three Short Courses in Home Making. By Carrie Alberta Lyford. Bulletin, 1917, No. 23.

Issued by the United States Department of Labor, Children's Bureau:

Summary of Child-Welfare Laws Passed in 1916. Miscellaneous series No. 7. Bureau Publication No. 21.

Facilities for Children's Play in the District of Columbia. Miscellaneous Series No. 8. Bureau Publication No. 22.

Infant Mortality. Results of a field study in Manchester, N. H., based on births in one year. By Beatrice Sheets Duncan and Emma Duke. Infant Mortality Series No. 6. Bureau Publication No. 20.

Issued by the United States Public Health Service:

Chemical Closets. Reprint No. 404 from the Public Health Reports. June 29, 1917.

Common Colds. By W. C. Rucker. Supplement No. 30 to the Public Health Reports. March 16, 1917.

Drinking Fountains. Investigation of Fountains at the University of Minnesota. By H. A. Whitaker. Reprint No. 397 from the Public Health Reports. May 11, 1917.

Issued by the publishers listed:

The Planning of an Economical Wardrobe. By Helen Lee Davis. Emergency Bulletin No. 9. University of Nebraska, Extension Service, Lincoln, Nebr.

Experiments in Teaching Food Values. University of Illinois, Department of Household Science, Urbana, Ill. Bulletin 49.

Milk; A Cheap Food. By Flora Rose. Minnesota Farmers' Library, Agricultural Extension Bulletin No. 63. Univ. of Minn., St. Paul, Minn.

Home Canning. Prepared by Home Economics Department, the Vermont Agricultural Extension Service, Burlington, Vt.

Housewife's Manual for Saving Fruits and Vegetables by Canning and Preserving. By Mary E. Sweeny. College of Home Economics, University of Kentucky, Lexington, Ky.

Doing Without. Emergency Recipes. Published by the N. Y. C. Section, Emergency Committee of the American Home Economics Association, 19 W. 44th Street, New York City. \$.25.

Food for the Family. Bureau of Home Economics, A. I. C. P., 105 E. 22nd. St., New York. Pub. No. 120.

Agricultural Preparedness and Food Conservation: a Study in Thrift Committee on Thrift Education, National Education Association.

Wheat Substitutes. By Robert E. Chaddock, Henry C. Sherman, Mary D. Swartz Rose, and May B. Van Arsdales. Columbia War Papers, Series 1, No. 15, Columbia University.

- Food Demonstration Work for Congested City Neighborhoods.* Charity Organization Society, 105 E. 22d St., New York City.
- Food Supplies in War Time.* By R. H. Rew, C. B. Oxford Pamphlets, 1917. Oxford University Press, Amer. Branch 29-35 W. 32d St., New York City.
- The American Red Cross Manual of Home Service.* July, 1917. Department of Civilian Relief, Washington, D. C.
- Occupations for Girls.* Suggestions for the Preparation of Vocational Charts. Prepared by Helen L. Thomas. Y. W. C. A., 600 Lexington Ave., New York City, 1917.
- Illegitimacy in Europe as Affected by the War.* By Emma O. Lundberg. No. 106, Reprints of Reports and Addresses of the National Conference of Social Work, 315 Plymouth Court, Chicago.
- Direction for Canning by the Cold Pack Method.* Compiled by Stella S. Simonds. Issued by Committee on Food Production and Conservation, Quincy, Mass. Published in English, French, Italian, Lithuanian, Swedish, Russian, Finnish, Jewish, and Syrian.
- Food Bulletin.* Published by the Women's City Club of New York. Edited by Martha Bensley Bruere, Vanderbilt Hotel.
- Food Facts.* A magazine devoted to the saving of food, money and labour. Annual subscription, 3/, post free. Published 119 Fleet Street, London, England.
- The Food Supply of the United Kingdom.* A report drawn up by a committee of the Royal Society at the request of the President of the Board of Trade. Published by His Majesty's Stationery Office, London. Price 4d. net.
- Investigation of Workers' Food and Suggestions as to Dietary.* Report by Leonard E. Hill, M. B., F. R. S. Published by His Majesty's Stationery Office, London. Price 1½ d. net.
- Lessons in Community and National Life.* Community Leaflets Nos. 1, 2, and 3. Published by the Bureau of Education, Department of the Interior. Washington, D. C.

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NEWS FROM THE FIELD

The American Red Cross Committee on Dietitian Service includes a number of well known members of the American Home Economics Association. Miss Jane A. Delano, Chairman, National Committee on Red Cross Nursing Service, is an ex officio member.

The original committee consisted of: Miss Emma H. Gunther, Chairman, Teachers College, New York City; Miss Isabel Ely Lord, Pratt Institute, Brooklyn, N. Y.; Miss Annie W. Goodrich, Teachers College, New York City; Miss Elva A. George, Red Cross Headquarters, Washington, D. C.

The enlarged committee includes: Miss Grace E. McCullough, Peter Bent Brigham Hospital, Boston, Mass.; Miss Mary A. Lindsley, Cook County Hospital, Chicago, Ill.; Miss Ada Z. Fish, William Penn High School, Philadelphia, Pa; Miss Edna White, Ohio State University, Columbus, Ohio; Miss Effie Raitt, University of Washington, Seattle, Wash.; Miss Emma Smedley, Philadelphia, Pa.; Miss Ruth Wheeler, University of Illinois, Urbana, Ill.; Miss Lenna Cooper, Battle Creek Sanitarium, Battle Creek, Mich.; Miss Catherine J. MacKay, Iowa State College, Ames, Iowa; Dr. Agnes F. Morgan, University of California, Berkeley, Cal.; Miss Helen M. Pope, Carnegie Institute, Pittsburgh, Pa.

The General Federation of Women's Clubs have opened a service office in the Maryland Building in Washington, D. C., of which Miss Helen Louise Johnson has been appointed director. From this office will be published the *General Federation Magazine*, which has been purchased by the General Federation of Women's Clubs, and is to be edited by Miss Johnson.

The opening of the Service Office came in response to the need of the Clubs for

more direct contact with the activities of the different Government Departments.

Miss Johnson was for the four years 1912-1916 Chairman of the Home Economics Department of the General Federation, and has since the last Biennial been Chairman of the Relationships Committee.

The Richmond School of Social Economy has been established in response to a long-felt need for more available training in preparation for social service and social work in the South. The purpose of this school is to provide professional training for positions in social work and public health nursing. It is conducted by a Board of Trustees in coöperation with the leading social agencies and nursing organizations of Richmond and Virginia.

North Carolina Rural Work. The coöperation of country and town clubs is a most gratifying feature of the organization of rural work in North Carolina, as reported by Mary G. Shotwell, Supervisor of Rural Schools, Oxford, N. C.

Last year the County Federation of Clubs, composed of twenty country and town clubs and associations, planned two meetings when every member of an organized club was invited to bring lunch to the County Fair Grounds. The all day program included cooking demonstrations, school lunch demonstrations, and an address on food conservation. At the second meeting, twelve of the twenty clubs reported such activities as the improvement of schools, the establishment of community centers, playgrounds, and other means of keeping, not only the boys and girls, but the men and women contented and interested in their own communities.

The Second Pan American Congress on Child Welfare will be held in Montevideo, the capital of Uruguay, March 17-24, 1918. The executive committee, of which Dr. Luis Morquio, a pediatricist of Montevideo, is chairman, extends a cordial invitation to all societies and persons interested to become members and, if possible, to attend. Four sections have been arranged—sociology and legislation, education, hygiene, and medicine. In each country of the three Americas a committee has been authorized to enroll members, secure papers, draft resolutions, and take charge of the local affairs of the congress. Julia C. Lathrop is chairman of the committee for the United States, and Edward N. Clopper, 105 East 22d street, New York City, is secretary.

The Annual Convention of the Association of American Agricultural Colleges and Experiment Stations will be held in Washington, D. C., November 14 to 16. The program for the first evening will include the annual address by President Kenyon L. Butterfield, and an address by Prof. T. N. Carver, Harvard University, on "The Farmer's Income as Affected by War Conditions." There will be a session on the Smith-Hughes Bill, including a paper by Miss Mary E. Sweeny, Kentucky State University, on the "Relation of the Smith-Hughes Bill to the Teaching of Home Economics in the Land Grant Colleges," and a session on Food and Food Administration, at which Herbert C. Hoover, President Charles R. Van Hise, University of Wisconsin, Dean Catharine Mackay, Iowa State College, and Prof. Isabel Bevier, University of Illinois, will speak. The Experiment Station Section offers a paper on "The Economic Use of Food Values" by Dr. Graham Lusk of Cornell Medical School.

The headquarters will be at the New Willard where all meetings will be held.

Preceding the meeting of the Association of American Agricultural Colleges and Experiment Stations, the State Leaders of Home Demonstration Agents will be called

together November 9 to 13 to consider the organization and presentation of work in connection with the present emergency.

A Conference of Supervisors of Home Economics has been called by the Commissioner of Education, to be held in New York City November 23 and 24. All who are interested in home economics are invited.

Programs of this meeting will be mailed from the Home Economics Division of the Bureau of Education, and announcement of the place of meeting will be made in the near future. The probability is that the McAlpin Hotel will be selected by most of those who will attend.

Notes. Miss Alice M. Loomis and Miss Anna E. Richardson have been appointed Special Agents for Home Economics Education under the Federal Board for Vocational Education. They are to aid Miss Berry, who is Assistant Director for Home Economics, and much of their work will be in the field.

Information is desired regarding courses in high school civics, which have been planned with the newer idea of socialization. This information will be of great assistance to those who are formulating courses, especially if results of such work are given.

Miss Isabel Ely Lord, of Pratt Institute was granted by the Trustees leave of absence with salary in order that she might accept the post of Chief of the Home Economics Section of the Food Conservation Division, Food Administration, at the request of Dr. Wilbur and Mr. Hoover. Miss Lord began her work in Washington on October 8. She will have the administrative responsibility for the work of the Section, while the "regional representative" is to be acting chairman of the advisory committee, and will direct the policy of the Section and decide on subject matter.

Professor Lafayette B. Mendel, of Yale University has been appointed a member of the Advisory Committee on Alimentation for the Food Administration.

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RECENT CONTRIBUTIONS TO OUR KNOWLEDGE OF FOOD
PREPARATION

LOUISE STANLEY

University of Missouri

Food preparation for so long a time an art practiced by purely rule of thumb methods is passing through the applied science stage and gradually by selecting from the mass of available scientific material that which applies to it directly we are organizing and developing it into the science of food preparation.

Interesting material along this line comes out each year but much is hidden away in technical magazines and never comes to light in the food laboratory. On this account it seems worth while to review some of the more important of the recent articles with their practical applications in our own field. Some of these may be familiar to most of the readers but it seems wise to bring them all together in one article rather than to try to separate those which had probably come to the notice of many of us.

BREAD

In the substitution of other cereals for wheat the chief difficulty is to find a material to take the place of the elastic gluten of wheat. Eggs may be used for this purpose but the price makes them prohibitive. Ostwald and Reidel¹ suggest the use of 30 per cent starch paste for this purpose. They found that by mixing a dough prepared from other than wheat flour with a stiff starch paste in the proportion of 15 per cent of the total weight a satisfactory loaf with good crumb could be obtained. These same authors² give the results of breads made from other than

¹ Ostwald and Reidel: The Preparation of a Porous Bread from Starch. *Kolloidsisch*, 17 (1915), pp. 12-14.

² Ostwald and Reidel: Baking without Grain Flour. *Chem. Ztg.*, 39 (1915), pp. 537-38.

wheat flours by the addition of a 20 per cent starch paste compared with those mixed with egg and liquid and liquid alone. The starch paste in every case gave a more satisfactory texture.

Interesting in this connection is the description of a patent recently granted for a process of making bread: United States Patent 1,235,330.³ Bread dough is formed of rye flour 2 pounds, blended flour 74 pounds, yeast 6 ounces, salt 2 pounds, and water 52 pounds. The rye flour is first mixed with boiling water and allowed to stand for twelve hours. There is then added to it a separately prepared sponge formed of water, blended flour, yeast, and salt, and the remainder of the blended flour, salt, and water is then added.

Hay flours are a comparative novelty as food stuffs. They are discussed in an article by F. Octken.⁴ In our own country we have already reported work upon the alfalfa flour in bread making by Elizabeth Sprague of the University of Kansas.⁵

Additional value is attached to the use of these flours by the recent work of McCollum in regard to their content in the fat soluble accessory so essential for health.⁶ As much as 30 per cent of the alfalfa flour in the total diet will supply the necessary fat soluble accessory in the diet even when there is none provided from any other source.

Considerable attention has been given in the past year or so to conditions of activity of the yeast with the idea of improving the quality of the loaf and decreasing the loss by fermentation.

Arnold Wahl⁷ concludes that natural lactic acid used in bread making gives a larger loaf with whiter, more velvety crumb and improved bloom and color of crust. This may be obtained in the home by the use of buttermilk as the liquid in the preparation of bread.

Kohmann and his co-workers⁸ suggest the use of a mixture of salts which they call yeast nutrients. In the use of this mixture the rising time of the bread may be decreased, or 50 to 65 per cent of the yeast saved. On account of the relatively high cost of the yeast the cut is usually made in decreasing the amount used. In connection with this there is a saving

³ *Chem. Abs.*, 11 (1917), p. 2594.

⁴ F. Octken: The Use of Hay Flour in the Nutrition of Animals and Men. *Wiener Landw. Ztg.* 65 (1915), p. 338; *abs. Chem. Abs.* 10 (1916), p. 499.

⁵ *Jour. Home Econ.*, 9 (1917), p. 257.

⁶ E. V. McCollum: The Supplementary Dietary Relationship Among Our Food Stuffs. *Jour. Amer. Med. Assn.*, 68 (1917), p. 1383.

⁷ Wahl: Better Bread by Means of Natural Lactic Acid. *Jour. Indus. and Eng. Chem.*, 7 (1915), p. 773.

⁸ Kohman, Hoffman, Godfrey, Ashe and Blake: *Jour. Indus. and Eng. Chem.*, 8 (1916), p. 781.

of two per cent fermentable carbohydrates calculated on the basis of total flour used, due to greatly diminished decomposition of them by yeast. It has the additional advantage of enabling them to control more directly the conditions under which bread is made.

In a discussion of this paper at a meeting of the American Chemical Society some doubt was expressed as to whether this action was due to the nutrient relation of the salts to the yeast or their effect on the gluten, thus making a shorter fermentation time possible.

In United States patent 1,222,304 April 10, Kohman, Godfrey and Ashe⁹ receive a patent for a method of economizing the amount of yeast used in leavening bread by mixing cheese with the dough to serve as a yeast food during fermentation. Milk in which peptonization has been brought about by the action of certain bacteria, and certain other proteins similarly treated may be substituted for the cheese. The nitrogen containing compound is mixed with a hydrogenated fat in the proportion of ten parts to four or five of the fat and the mixture is added to the flour to the extent of 1 to 1.5 per cent of its weight.

No attempt has been made to review the different substitutes for wheat flour suggested in the literature as this would furnish material for a lengthy article in itself.

MILK

A study of the chemical changes in the souring of milk has been made by Van Slyke and Bosworth.¹⁰ They conclude that in souring 22 per cent of the lactose of milk is decomposed with the formation of lactic acid. A small amount of lactic acid is formed from the decomposition of the citric acid in the milk. The greater portion of the acid is formed during the first twenty-four hours and it is practically complete at the end of forty-eight hours. This is important in the use of sour milk.

The relative efficiency of raw and boiled milk as food has been the subject for many recent researches. McCollum and Davis¹¹ conclude that heating milk does not decrease the vitamine content. Any decrease in efficiency of milk so treated is due to the decomposition of the casein so the protein factor of the diet is somewhat less valuable after long continued heating. A good summary of the work on the comparative

⁹ *Chem. Abs.*, 11 (1917), p. 1865.

¹⁰ Van Slyke and Bosworth: Chemical Changes in Souring of Milk. N. Y. State Tech. Bulletin 48 (1916); *Jour. Biol. Chem.*, 24 (1916), pp. 191-202.

¹¹ McCollum and Davis: Loss of Efficiency of Milk. *Jour. Biol. Chem.* 23 (1915), p. 247.

efficiency of boiled and unboiled milk in the diet is given by Dr. Lane-Claypon.¹² She concludes that there is no difference in the nutritive efficiency between boiled and unboiled milk, in fact if milk from another species is fed there are reasons to suppose that it may be better cooked than raw.

In view of the former custom of adding lime water to milk for infants and invalids, the work reported by Bosworth and Bowditch¹³ is interesting. They find that the addition of the lime water results in the precipitation of more calcium phosphate in the form of a mixture of di- and tri-calcium phosphate. Instead of increasing the alkalinity of milk it really decreases it. They conclude that its use in milk is little more effective in preventing curd formation than the addition of a corresponding amount of water would be. On the other hand, in cases where the amount of hydrochloric acid in the stomach is small, it may do harm by neutralizing this slight degree of acidity and by decreasing the availability of the calcium and the phosphates present in the food.

Sodium citrate is recommended for use in preventing curd formation.¹⁴

EGG WHITE

Of especial interest to dietitians are the recent findings in regard to the use of raw egg white. Bateman¹⁵ finds that raw egg white is very indigestible in dogs. A tolerance is gained for it after continued use but even then the utilization does not exceed 85 per cent.

In another article¹⁶ Bateman reports the same conditions in man. The use of raw egg white often causes diarrhea and vomiting and the utilization may be as low as 50 per cent. Heating the egg white to 70°C. (158°F) removes the partial indigestibility and puts egg whites into the category of readily assimilable nutrients. Acids and bases can likewise effect a change in the same direction.

This whole question is discussed in an editorial of the *Journal of the American Medical Association* 69, (1917) p. 1006.

¹² Janet E. Lane-Claypon: Milk in its Hygienic Relations. Reviewed in *Jour. Home Econ.*, 9 (1917), p. 41.

¹³ Bosworth and Bowditch: *Jour. Biol. Chem.*, 28 (1917).

¹⁴ Bosworth and Van Slyke: *Amer. Jour. Diseases of Children*, (1914), p. 298; N. Y. Exp. Sta. Tech. Bulletin 34 (1914).

¹⁵ Bateman: *Jour. Biol. Chem.* 26 (1916), p. 263.

¹⁶ Bateman: *Amer. Jour. Med. Sci.*, (1917), p. 153.

MEAT

In view of the long prejudice against the use of immature veal as food it seems wise to call attention to an article by W. N. Berg¹⁷ on the comparison of immature veal with mature beef as food. No differences in composition of physiological significance were detected. When properly prepared by longer, slower cooking so as to soften the larger proportion of connective tissue present, it was digested quite as readily as mature beef. With this the sole source of the nitrogen growth was normal. The conclusion was that there was no ground for the prejudice against the use of immature veal as food, but that when properly prepared it is perfectly wholesome, especially when the deficiencies in fat and possibly in small amounts of undetermined constituents are made up in the ordinary mixed diet. We cannot consider the use of this form of veal as an economic gain except in exceptional cases.

FISH

At this time when we are being urged to substitute fish for meat wherever possible in order to help stretch the supply of meat it is important that we should know the comparative nutritive values of the different kinds of fish available, as well as the methods of their preparation. A very good summary of the kinds of fish available from the standpoint of the middle west consumer is found in an article by Henry B. Ward which was prepared for the Illinois Food Conservation Committee.¹⁸ Several of the fish described in this article have been discussed in pamphlets issued by the Bureau of Fisheries at Washington, with recipes for their preparation included. A list of these bulletins is given below.¹⁹

¹⁷ W. N. Berg: Biochemical Comparison between Mature Beef and Immature Veal. U. S. *Dept. Agr. Res.* 5 (1916), pp. 667-711.

¹⁸ H. B. Ward: The Housewife and the Fish Problem. *Jour. Home Econ.*, 9 (1917), p. 369.

¹⁹ Farmers' Bulletin 85: Fish as Food.

Circulars from Bureau of Fisheries, Department of Commerce:

11. Canned Salmon: Cheaper Than Meats and Why.
12. Sea Mussels: What They Are and How to Cook Them.
13. Commercial Possibilities of the Goose Fish.
18. Oysters: The Food That Has Not Gone Up.
19. The Tile Fish: A New Deep Sea Food.
22. The Gray Fish: It Knocks the H out of the H. C. L.
23. The Sable Fish.
25. The Burbot: A Fresh Water Cousin to the Cod.
26. The Bowfin: An Old Fashioned Fish with a New Found Use.
27. A Practical Smoke House for Fish.
28. Preserving Fish for Domestic Use.

A recent study has been made of canned salmon by L. D. Bushnell and C. A. A. Utt.²⁰ They examined a number of brands of salmon of different grades but find them all sterile and only traces of tin, well below the amount considered toxic. The authors conclude that the reported poisonings following the use of canned salmon were due to its infection after opening the can.

SUGAR

The saving of sugar is at the present time an important question with us and several articles have appeared dealing with possible economies in the use of this ingredient. Marmalade is so important a part of the English diet that we are not surprised to have from that country suggestions for its preparation with smaller amounts of sugar,²¹ and the addition of some salt. The results of some similar tests are reported by Miss Lord²² as the result of experiments at Pratt Institute. They find that satisfactory jam or marmalade can be prepared from 1 pound of fruit with the addition of 6 ounces of sugar and $\frac{1}{4}$ ounce of salt, instead of the usual $\frac{3}{4}$ pound of sugar. These products should not be eaten for several days, or until the characteristic salt taste has had time to disappear.

F. Stutzel²³ reports a loss of sugar in baking under usual conditions. In the author's opinion there is a waste of from 8 to 28.8 per cent of the added sugar in ordinary baking practice, due to the decomposition by the yeast. This may be controlled by a shorter fermentation period and by the use of the yeast nutrients.

C. P. Plaisance and Helen Monsch²⁴ call attention to the fact that there is a formation of furfural during the caramelization of sugar. The amount formed seems to be sufficient to be given our attention. If the product is boiled after caramelization, the furfural is removed. Care should be taken to prevent caramelization in baking of fruit unless the sauce is boiled to remove any possible furfural formed. Brittle candies should be prepared at as low a temperature as possible and wholly or in part from glucose, since less furfural is formed in this case. This

²⁰ L. D. Bushnell and C. A. A. Utt: The Examination of Canned Salmon for Bacteria and Tin. *Jour. Indus. and Eng. Chem.*, 9 (1917), p. 679.

²¹ Foods and Cookery: An English Journal.

²² Isabel Ely Lord: *Jour. Home Econ.* 9 (1917), p. 375.

²³ F. Stutzel: Sugar Extravagance in Baking. *Ztsch. offenta. chemie*, 21 (1915), pp. 152-3; Abs. in *Chem. Zentr.*, (1915), 2, p. 88.

²⁴ C. P. Plaisance and Helen Monsch: *Jour. Home Econ.*, 9 (1917), p. 167.

has the additional advantage according to the above authors of cheapening the product.

In a recent editorial in the *Journal of Industrial and Engineering Chemistry*²⁵ attention is called to the possibility of the greater use of sorghum. While the sorghum has not been found to be a profitable source of sucrose on account of the difficulty of its crystallization from a solution containing so large an admixture of invert sugar, starch, dextrin, and gums, these same constituents make them valuable in the industries wherever invert sugar is desirable. Since sucrose has been inverted for industrial purposes, there will be a saving of just so much.

We can use the sorghum in food preparation wherever the invert sugar and the flavor are not a disadvantage and in many cases invert sugar is a distinct advantage, especially in retarding crystallization, as a softener, and as an aid in the retention of water. Corn sirup may be used in the same way. Sorghum has the advantage of being sweeter than corn sirup. The use of sorghum sirups as a substitute for the inverted cane-sugar sirup is discussed more in detail in an article by Jordan and Chesley.²⁶

McNair²⁷ gives tables showing amounts of sugar and water to be added to sirups of a known density to obtain those of a required density. These should be helpful in the work in preserving where sirups of a definite density are desired.

VEGETABLES

As a part of the campaign for the conservation of foods it is important that vegetables should be prepared so as to retain as large a proportion as possible of their soluble constituents. Bodums²⁸ reports that the addition of salt to the water in which potatoes are being boiled protects the loss of their soluble constituents. Only 1.25 per cent of starch and 10 per cent of mineral matter were extracted when the salt was added, while if the potatoes were boiled in clear water as much as 33 per cent of the mineral matter was lost by solution.

Blunt and Otis²⁹ show how great is the loss of iron in boiling vege-

²⁵ *Jour. Indus. and Eng. Chem.*, 9 (1917), p. 731.

²⁶ Jordan and Chesley: Sources and Composition of Some Commercial Invert Sugar Sirups with Notes on Sorghum Sirup. *Jour. Indus. and Eng. Chem.*, 9 (1917), p. 756.

²⁷ McNair: Syrups for Canning and Preserving. *Jour. Indus. and Eng. Chem.*, 9 (1917), 151.

²⁸ Bodums: The Economical Use of Potatoes. Abs. in *Chem. Zentr.*, (1915), 2, pp. 37-38.

²⁹ Blunt and Otis: Losses of Iron in Cooking Vegetables. *Jour. of Home Econ.*, 9 (1917), p. 213.

tables, calling attention to the advisability of substituting other methods of preparation or the utilization of the water in which they are boiled.

Additional importance is attached to the liquor in which leaf vegetables and possibly others are cooked by the finding of the vitamins in it. McCollum and Kennedy³⁰ make the following statement: "The water in which cabbage is cooked does not produce any ill effect; on the contrary it contains a substance which when fed to pigeons suffering from polyneuritis caused by an exclusive diet of polished rice effects a cure." Still we find cookery books and home economics texts recommending that cabbage be cooked in a large volume of water and that water be discarded, in some cases even discarding a second cooking water.

Another common practice in cookery, that of adding soda without an acid to neutralize it in the preparation of foods is to be discouraged.³¹ Sullivan and Myer account for the prevalence of pellagra in certain sections of the south as due, in part, to the custom of adding baking soda as a leavening agent to the corn bread without any acid. Feeding experiments with the bread so prepared gave symptoms of vitamin deficiency which were relieved when the bread from the same meal properly prepared was given. The authors conclude that heating in an alkaline solution destroys the vitamin content. While few of us are guilty of using sodium bicarbonate alone as a means of leavening, it is frequently added to the water in which legumes and certain other vegetables are cooked and the effect on the vitamin content is probably the same.

CANNED FOODS

Dickson³² gives the summary of several cases of Botulism, poisoning by the toxin formed by the *B. botulinus*. In experiments he found that in case the vegetable material is infected with either of the spore bearing forms, *B. botulinus* or *B. subtilis*, they are not destroyed in the time recommended for water bath heating in the government directions for canning by the cold pack method. He therefore recommends that special precautions be taken to see that all the materials so canned be heated before being used as food. Since the heating destroys the toxin, such materials may be safely used for food after being so treated.

³⁰ McCollum and Kennedy: *Jour. Biol. Chem.*, 24 (1916), p. 491.

³¹ Voegtlin, Sullivan and Myer: *Diet in Relation to Pellagra*, U. S. Public Health Reports, 31 (1916), pp. 935-43.

³² Dickson: *Botulism, the Danger of Poisoning from Vegetables Canned by the Cold Pack Method*. *Jour. Amer. Med. Assn.*, 69 (1917), p. 966. See also Editorial in this Journal, p. 578.

Bigelow³³ concludes that the solids of canned foods contain a materially higher amount of tin than the liquor and this difference is increased with the age of the sample.

COFFEE

Some recent experiments on coffee making carried out in connection with the trades have given rather interesting results. Kennedy³⁴ concludes: (1) The ease of extraction of coffee is directly proportional to the fineness of grinding. (2) Water at 212° is twice as efficient in extracting color and flavor as water at 150°. While caffein and caffetannic acids are soluble in cold water, the flavoring substances require the boiling temperature.

Bacon³⁵ concludes that the most palatable brew is obtained at 195°F. From the bromotological standpoint, French drip coffee is the best.

SPICE

Freda M. Bachmann³⁶ states that spice in the amounts ordinarily used by the housewife do not exert a very considerable preservative action. Cinnamon, cloves, and allspice if used in large amounts may retard the growth of molds. In combination with vinegar they are more effective. Pepper and nutmeg have little effect on the growth of micro organisms. Cloves and allspice are effective in large amounts; cinnamon is not effective.

³³ Bigelow, W. D.: Tin in Canned Foods. *Jour. Indus. and Eng. Chem.*, 8 (1916), p. 813.

³⁴ Kennedy, Wm. M.: Late Studies in Coffee Making. *Amer. Food Jour.*, 9 (1914), p. 155.

³⁵ Bacon, R. F.: The Efficiency of Coffee Making Devices. *Tea and Coffee Trade Jour.*, 29 (1915), p. 427.

³⁶ Bachmann, Freda M.: *Jour. Indus. and Eng. Chem.*, 8 (1916), p. 620.

SOME RECENT INVESTIGATIONS IN NUTRITION AT THE
UNIVERSITY OF WISCONSIN

ROSEMARY LOUGHLIN

Department of Home Economics, University of Wisconsin

Prof. E. V. McCollum, who has recently left the State University of Wisconsin to take charge of the department of chemistry in the new School of Hygiene and Public Health of Johns Hopkins University, during the past few years has carried on a vast number of feeding experiments that have distinctly pointed out the value of right diet.

The method of study has been the feeding of growing animals, chiefly rats, with purified food substances, as well as foods obtained from natural sources. Varying amounts of proteins, carbohydrates, fats, mineral substances, and the food accessories were employed in the rations fed. The progress of each animal was carefully watched throughout its life cycle. Since a perfect diet makes possible normal growth, reproduction, and successful rearing of young at frequent intervals, the value of the diet was judged by the response of the animals under investigation.

After failing to secure normal growth in animals on a diet of purified food substances, McCollum found that the addition of the ether extract of egg yolk or of butter, together with the water extract of various foods, caused growth to be resumed. The addition of a water extract of cabbage as well as of potato, egg yolk, wheat embryo, or oats, to a diet consisting of polished rice, plus inorganic material, a good protein, and 5 per cent of butter fat, stimulated growth in animals which were greatly depleted on a diet which contained the latter substances but lacked the water-soluble extract. Similarly a diet which included the water-soluble extract but lacked the fat-soluble food accessory failed to produce normal growth.

McCollum concluded from these results that besides the well recognized food constituents there are necessary for normal nutrition two other complexes the chemical nature of which has not yet been determined. One of these is associated with certain animal fats (it has never been found associated with vegetable oils) and is soluble in fat solvents, while the other is soluble in water. Later experiments have shown that the fat-soluble accessory is to a certain extent also soluble in water. Until these substances shall be further identified McCollum has designated them as fat-soluble A and water-soluble B, respectively.

An appreciation of the physiological value of the food accessories made possible a more comprehensive study of the naturally occurring foods. In these investigations McCollum not only determined the presence of the food accessories, but examined the character of the protein and inorganic material as well.

From these studies he concludes that it is impossible to obtain growth over an extended period on a diet restricted to the seeds of plants because of the lack of a sufficient amount of one or more of the essential food constituents. The inorganic content of seeds is insufficient to meet the demands of a growing animal. The amount of sodium and calcium is too low for physiological well-being. In view of this fact the addition of a certain amount of salt (sodium chloride) to cereals has distinct dietetic value. In certain sections of the country where the water contains an abundance of calcium, this calcium deficiency may in part be overcome.

The inorganic content of the leaf, on the other hand, differs materially from that of the seed. This is especially rich in calcium, sodium, and chlorine, substances which have been found to be low in the seed. In this particular, then, the seeds and leaves supplement each other.

In other respects seeds and leaves have been found to have supplementary relationships. The seeds investigated, cereals and certain legumes, were found to contain poor proteins, whereas leaves contained relatively good proteins; and when reckoned on the dry basis the protein content of leaves is not inconsiderable. Rats fed a diet consisting of ground corn (maize) 50 per cent, dried alfalfa 30 per cent, and peas 20 per cent, functioned normally in every respect.

In general the fat-soluble food accessory was found to be too low in seeds to supply the demands of the growing animal; this was true even in those seeds which contained fairly large proportions of fat. It is interesting to note here that the amount of fat-soluble A has been found to be highest in the smaller seeds, such as flax and millet. McCollum suggests that this is probably due to the relatively large proportion of germ in comparison with the endosperm in such seeds. Both leaves and seeds contain an abundant supply of water-soluble B. In the cereals, however, this may be modified by the process of milling, since much of the water-soluble food accessory has been found to be located in the embryo. The association of the unidentified dietary factors A and B with the functioning cell may account for the exceptional richness of

the leaf in these factors, for the leaf, being the seat of great synthetic activity, consists of a relatively large number of functioning cells.

An exclusively vegetable diet selected with adequate knowledge of its properties may insure complete nutrition, but a diet which also includes meat, eggs, and especially milk, is far safer. This is particularly true when considered from the standpoint of proteins, for when proteins are selected from several sources they will probably not be lacking in the same amino acids. The animal proteins supply those amino acid complexes which are essential to the animal organism in very nearly the same proportion as is found in the human body. Many of the vegetable proteins, on the other hand, have been found to be incomplete from the point of view of human nutrition. Some lack essential amino acids, while others contain them in insufficient amounts. It has been somewhat disconcerting to have to give up the widely accepted theory that the legumes can take the place of animal proteins in the dietary; but McCollum has found that both peas and the white bean contain poor proteins and therefore cannot exclusively take the place of meat, milk, and eggs. It is interesting to note that gelatin, which has long been considered to consist of a poor protein, becomes of considerable importance when used to supplement the protein of some of the cereals. Animals fed both wheat and oats to which small amounts of gelatin, together with a suitable inorganic material and fat-soluble A were added made normal growth, whereas those which were fed a similar diet containing no gelatin suffered nutritive disaster. Gelatin apparently contains those amino acids which are either low or lacking in certain cereal seeds. It does not, however, supplement the proteins of maize or of peas and beans.

McCollum has definitely proved that beri-beri is a dietary deficiency disease due to a lack of the water-soluble food accessory. The addition of water-soluble B to polished rice produces more nearly normal growth; however, polished rice is lacking in certain other respects. Like cereal seeds in general it contains a poor protein, too small an amount of a suitable inorganic material, and too little fat-soluble A.

We are warned, however, against the idea that certain other diseases, such as pellagra, richitis, and scurvy, the etiology of which is at present obscure, are necessarily dietary deficiency diseases. Symptoms similar to those of scurvy have been produced in a large number of guinea pigs on a diet of oats and whole milk. Since this condition is relieved by laxatives such as phenolphthalein, or liquid petroleum, it seems probable that

scurvy is due to retention of feces in the coecum. The antiscorbutic action of orange juice McCollum believes may well be accounted for by the laxative action of the contained potassium and sodium citrates, and the tendency of citric acid to keep down the development of certain types of bacteria.

A consideration of the diet of the pellagrin suggests that the disease is due to a combination of foods in which there is an insufficient amount of more than one of the essential dietary factors: fat-soluble A, suitable inorganic material, and physiologically good proteins. McCollum points out that an unfavorable proportion among the well recognized constituents of the diets as well as of the recently appreciated food accessories, together with the unsatisfactory physical factors of the pellagrin's diet, and injury wrought through the agency of microorganisms inhabiting the alimentary tract will account for all the observed types of pathological phenomena.

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INTERRUPTIONS

So long as there is work to do there will be interruptions—breaks in its progress. And it is a part of one's character growth to bear these timely or untimely interruptions without any break in good temper or courtesy.—*Business Men's Calendar*.

SOME RECENT MAGAZINE ARTICLES ON THE STANDARD
OF LIVING

LORINDA PERRY

Department of Household Science, University of Illinois

The wide range of topics covered in a course on the Economics of the Family Group, the scattered sources of information, the fact that much is still to be done in correlating the material which has appeared, presents difficulties in such an article as this. Much of the important new material in Economics does not appear in magazine articles, as is so frequently the case with the natural sciences, but in books, which would require too much space and discussion to present. Then, too, the nature of the subject matter is such that it cannot adequately be summarized in a few sentences; often the way in which the conclusion has been reached is as important as the conclusion itself.

To retain coherence in somewhat scattered material, and to keep this paper within reasonable bounds, the subject has been rather arbitrarily limited to a presentation of some recent magazine articles pertaining to the standard of living. The scope of this article has necessarily been determined and limited by the subject matter of the articles quoted. For various reasons, reports upon market conditions have been omitted. The period covered is approximately from January, 1916, to September, 1917, inclusive.

The question of the standard of living is one of the most important in the theory of consumption. Professor Marshall has defined it as the standard of wants and of activities. It has been called the dynamics of the theory of consumption. The desire to maintain or to improve a given standard of living is one of the strongest incentives to progress, and one of the greatest bars to retrogression.

The standard of living, accepting Professor Marshall's definition, is interwoven with the most perplexing questions of living. Consideration of it is not confined to economics or to sociology. Aid in solving its problems comes from physiology, biology, chemistry, ethics, and religion.

It is said that welfare can be increased as much by a better ordering of consumption as by increased production, and that, too, without any real retrenchment in consumption. To teach the values of foods and the principles of nutrition, to set better, truer values in expenditures for clothing and house furnishings, to bring about better living conditions,

is to bring about a better ordering of consumption and thus an improvement in the standard of living. To a very large degree the value of home economics should be measured in its effect upon the standard of living. The problems, then, of the standard of living are of interest to the worker in home economics.

An article on the "Implications of a Standard of Living"¹ is stimulating and interesting, not so much for the manner and thoroughness of discussion as for the range of topics considered, illustrating the many ramifications of the subject, and opening up many suggestive lines of thought from many authors, though no new point of view is presented.

A brief résumé of the points touched upon will suffice. An increase in the standard of living is possible with the increasing control of man over the forces of nature, enabling him not only to satisfy his wants with less expenditure of labor, but to develop new wants of a more varied and of a higher nature. A standard of living is developed slowly, and once destroyed cannot easily be rebuilt.

The imitative character of our standards, their relation to marriage, to the birthrate, and to what some consider the increasing instability of the family, and some of the economic advantages of a high standard, are touched upon. The article is decidedly sketchy in character, and no one point is exhaustively analyzed, yet it does open up many avenues of thought in connection with the standard of living.

Much emphasis has been placed upon the importance of maintaining a high standard of living. The question as to whether our standards of living, and especially those of the laboring class are decreasing under present conditions is raised in several articles. Hopeful observers, usually in the majority, noting the enormous increase in the production of goods which has occurred in the last century, and noting also an increase in wages, rest contented that the standard, if not improving, is at least holding its own. Others, with eyes upon the mounting cost of living, have seriously doubted whether there has been any recent improvement, and even affirm that the standard has been lowered.

Economists differentiate between "real" and "money" income. A knowledge of the money income of a family means very little until that money is translated into terms of goods and services which the family enjoys from the expenditure of it. These goods and services constitute the real income. What the real income of the family is varies with many

¹ Hexter, M. B.: Implications of a Standard of Living. *Amer. Jour. Soc.*, v. 22, pp. 212-225.

factors, chief among which are money income, the prices of the articles for which the money is spent, and the capacity to expend money.

If, over a period of years, the income increases at a swifter rate than the cost of the goods for which it is expended, other things being equal, the standard will increase. If the amount of the income and the cost of goods increase at the same rate, no loss nor gain is experienced. But if the price of goods increases at a swifter rate than the amount of income, the standard of living must be modified or lowered, unless some way can be devised of meeting the increase in cost of goods. It is under such conditions that the problem of the cost of living usually arises.

The standard of living is thus largely determined by two variables—the amount of income and the prices of goods for which that income is expended. To ascertain the course of the standard of living of any group, it is necessary to know the amount of income received by the families in that group, and the amount, kind, and price of goods entering into the consumption of these families at different times. Obviously both kinds of data are difficult to obtain.

Attempts have been made to determine the course of the standard of living of working people by comparing the wages received in various industries with the cost of food for which the larger part of these wages is spent. This is because expenditures for food constitute the bulk of the expenditures of the ordinary family, and wages are the chief source of income for a large per cent of our population.

The federal government publishes data as to wages in specified industries, and the retail prices of certain foods in various parts of the country. Relative prices are computed for each article of food so that changes in the course of the price of any one commodity can easily be determined and followed. A relative price of any article is the percent which the price of that article at any given date is of the price of the same article at a date or period selected as the base, and considered, for purposes of comparison, as 100. Index numbers are then constructed to show changes in the course of the prices of a group of articles taken as a whole. The index number consists of a combination of individual commodity prices in such a way as to form a general relative price for a group of commodities. It may be either a simple arithmetic average, or a weighted arithmetic average, in which the more important commodities are counted more than once according to their importance in the consumption of the average working-man's family as determined by the cost of living study conducted by

the United States Bureau of Labor Statistics in 1901. For the years 1890-1907, the Federal Government published retail prices and computed index numbers for 30 articles of food constituting about 95 per cent of the total food expenditures of the average workingman's family in 1901. This was discontinued until 1912 when publishing of retail prices was resumed for 15 articles of food constituting about 64 per cent of the average workingman's expenditures for food in 1901. The data were obtained from a smaller number of cities and of retail establishments.²

In the December number of the *American Economic Review* for 1914,³ Dr. I. M. Rubinow attempted to bring down to date (1912) the "index number of what might be termed real wages," which the government had discontinued publishing in 1907. Upon the basis of statistical methods explained in that article he came to the conclusion that the purchasing power of weekly wages as measured by retail prices of food, assuming the average real wage between 1890 and 1899 to be 100, had decreased from 100.2 in 1900 to 85.3 in 1912, a decrease of 14.9 points, and from 97.7 in 1907 to 85.3 in 1912, a decrease of 12.4 points or 12.7 per cent. His general conclusion was that the purchasing power of wages in 1913 was not much higher than in 1870. This conclusion was generally accepted by economists, although it was apparently contradicted by observation of the increase in comforts in the homes of workmen. The increase in the number of women and especially of married women employed in industry and contributing to the family income, and the smaller size of the family were Dr. Rubinow's explanation of the apparent contradictions.

Mr. F. W. Jones⁴ in an article in the *American Economic Review*, considers that Dr. Rubinow's conclusions are too gloomy. When the Federal Government in 1912 resumed the publishing of the retail prices of food, the new index was constructed on the prices of only 15 of the 30 articles formerly quoted. By the construction of new index numbers for the 15 articles quoted and the 15 articles omitted, he showed that the 15 articles quoted had increased in price at a swifter rate than those omitted, exaggerating somewhat the increase in the cost of food of the workingman. Nevertheless, while the situation may not be as gloomy

² See Retail Prices 1907 to December, 1914. Bulletin No. 156, United States Department of Labor, Bureau of Labor Statistics, p. 357ff.

³ Rubinow, I. M.: The Present Trend of Real Wages. *Annals Amer. Acad. of Pol. and Soc. Sci.*, v. 69, pp. 28-33.

⁴ Jones, F. W. Real Wages in Recent Years. *Amer. Econ. Rev.*, v. 7, pp. 319-330.

as pictured by Dr. Rubinow, the author comes to the conclusion that real wages as measured by the retail prices of food entering into the budget of the workingman had decreased rather than increased.

Dr. Rubinow, in the article previously referred to,³ calls attention to the continued decrease in the purchasing power of wages since 1912 as shown in a bulletin (No. 194) of the United States Bureau of Labor Statistics. The weekly earnings of organized labor had increased steadily from 1907 to 1915, but this increase was more than cancelled by the greater increase in the cost of food for which the wages are paid. This tendency is shown also in the wages of various specified industries, so that, very probably, the real wages as measured in the retail prices of food declined steadily until the war. What has happened since the war began is difficult to tell, but it is doubtful whether the abnormally high wages received in a few war industries or the decreased competition from immigration have enabled the majority of the American working men to regain what had been lost.

The preceding conclusions as to the course of the standard of living of the workingman are based upon a study of the purchasing power of wages earned by men, measured in terms of retail prices of food, and not upon the total family income. Professor Fairchild,⁵ feeling that the question of the direction of the course of the wage-earner's standard of living is "too vital to be left to random guesses and rash assumptions," and that the orthodox view that the standard of living was improving is erroneous, arrived, by a different method, at practically the same conclusion as Dr. Rubinow and Mr. King—that we are not justified in believing that the standard of living of the workingman is increasing. Professor Fairchild believes that the increase in prices in recent years has affected different classes of commodities differently, being greater in the common everyday necessities of life, and least in the luxuries. His plan was to work out what he calls a standard budget consisting of a list of definite commodities of all classes of expenditure which enter into the actual budget of the ordinary family and constitute the bulk of wage expenditure. These he called necessities, all above being comforts and luxuries. After determining the cost of such a standard budget in the two years to be compared, the amount left for luxuries would measure the relative height of the standards of the two periods.

The articles of the standard budget were determined by Professor

⁵ Fairchild, Henry Pratt: The Standard of Living—Up or Down? *Amer. Econ. Rev.*, v. 6, pp. 9-25.

Fairchild from a study of the actual budgets reported by workingmen's families in such standard of living studies as Chapin's, More's, Kenn-gott's, Nearing's. The data for these studies were collected about the year 1908. The standard family consisted of five people—father, mother, and three children under fourteen years,—living upon an income of \$600, selected as the dividing line between skilled and unskilled labor earnings. The years compared were 1908 and 1890. He estimated the proportion of the total family income spent in 1908 for the various classes of necessities as: food 48 per cent (\$288), shelter 20 per cent (\$120), clothing 12 per cent (\$72), heat and light 6 per cent (\$36), leaving 14 per cent (\$84) for comforts. He then made up an estimate of the specific items included in each of the four divisions, which would require too much space to repeat. The cost of these items equalled the amount allotted for each class of necessities in the year 1908.

In ascertaining their cost for 1890, he used the index numbers for the retail price of food and found that the yearly food could be purchased for \$226.72 as compared with \$288 in 1908. In estimating the rent, which he had placed at \$120 per year in 1908, he took into consideration observations as to the course of rents of himself and of others, scattered references in articles appearing about 1890, and the tendency for rents to increase with increasing population and with the increase in the cost of buildings and of upkeep, and decided that shelter which could be obtained for \$120 in 1908 would cost \$96 in 1890.

The cost of clothing in 1890 was arrived at by the use of the federal government index numbers of wholesale prices of a number of articles of clothing, which after all would overstate rather than understate the prices of 1890. The yearly budget of clothes costing \$72.00 in 1908, amounted to \$68.51 in 1890. The estimate of the cost of the budget allowance of fuel and light, based on index numbers of wholesale prices, was placed at \$31.62. The total cost of the standard budget in 1890 was \$422.85 as contrasted with \$516 in 1908.

Since the standard of living depends upon two variables, it is necessary to estimate the income which the same grade of family receiving \$600 in 1908 would receive in 1890, and the author concluded that this yearly income would be \$500 in 1890. Subtracting the cost of necessities in 1890, \$77.15, or 15.4 per cent of the total income remained to be spent for cultural wants, as contrasted with 14 per cent in 1908. This would measure the comparative heights of the standards of living of the American workingman in 1890 and in 1908. While such evidence is no proof of a

higher standard of living in 1890 than in 1908, yet it does support such a claim. At least, as the author says, it is strong evidence against "the right of anybody to assert with serene confidence that the standard of living of the American common laborer has improved in the past thirty years."

Thus while Dr. Rubinow concludes that real wages as expressed in retail prices have lowered, that if the standard has been maintained or improved it has been because of the increased employment of women outside the home, Professor Fairchild asserts from a study of the total family budget that it is questionable if the standard of living has been improved. It may be, however, that Professor Fairchild in estimating the total family income in 1890, did not make sufficient allowance for the smaller number contributing to it by employment outside the home.

Just what does this discussion of the course of the standard of living of the workingman's family mean to the worker in home economics—to the housewife? It shows that there are real grounds for serious doubt as to whether the standards of the majority of people are improving. It shows that the cost of living problem, in the sense that prices of goods for which income is spent have increased more rapidly than the income, has only been accentuated and not originated by the war, and is therefore not a temporary problem. Improvements in the standard of living can come about in two ways, (1) through increase in the purchasing power of the consumer, either because of increased income or cheaper goods or both, or (2) through the better consumption of goods, the result largely of the elimination of waste by the application of scientific and business principles in the home. Better and truer standards must be established, and home economics will play an important part in such an establishing.

Some idea of the increase in the cost of food which has occurred since the war may be obtained from the series of reports on "Retail prices of food in the United States," which appear more or less regularly in the *Monthly Review of the United States Bureau of Labor Statistics*. Monthly reports of retail prices of certain articles of food are received from a large number of retail establishments catering to the working class in various parts of the country. Relative prices are constructed for each article so that it is possible to follow the course of prices for each article reported.

Since the war, new commodities were added to the original 15, so that now quotations are given for 26 or 27 articles of food, and for all commodities combined in a simple arithmetic average. In this way it

is possible to follow monthly changes in the course of average retail prices of specified food articles and of all articles combined.

Caution must be employed in the use of the index number for all commodities combined. So many factors enter in to determine the cost of living that index numbers of the increase in cost must be used gingerly in specific cases. The index number of all commodities combined and weighted may be misleading. It assumes that there has been no change in consumption since 1901. Very probably with the increase in the cost of certain articles of food, many families—the majority of families—have either consciously or unconsciously modified their food habits to adjust to the increase in the cost of food. Newer and cheaper substitutes for old foods have entered into the diet of most families. Yet the basis of weighting for all commodities as given in the index number does not allow for this adjustment, since it is based upon the amount of the specified articles of food consumed in the average workingman's family in 1901. No changes can be made, of course, except upon another investigation.

An article in an English journal⁶ illustrates this objection and brings out several problems of the cost of living. The Board of Trade of England has published each month since July, 1914, index numbers showing the increase in the retail prices of all the principal articles of food, and a general index number for all food, obtained by combining the different articles in the proportion to be found in the typical working class family budget.

If the Board of Trade index number says there is 50 per cent increase, does it mean that if the level of a pre-war standard is maintained, food bills of approximately all households will increase in that proportion?

The author found that among her friends of the middle class, with no obvious change in standard, the increase was less than that indicated by the Board of Trade index number, but that the cost for the working class families seems to have risen to a greater extent. The size of the income and the scale of living of middle class families before the war were such as to permit of modifications in diet to meet the increased cost without a noticeable change in the standard. This was brought about by the substitution of cheaper foods for the more expensive ones, or of cheaper for more expensive qualities of the same food. This, however, the poorer

⁶ Woods, Frances: The Increase in the Cost of Food for Different Classes of Society since the Outbreak of the War. *Jour. Roy. Stat. Soc. Lond.*, v. 79, pp. 501-508.

classes find difficult to do, as there is less room or opportunity for variation or substitution and they, as a rule, are consuming the poorer quality of food. Again the author believes that when there is more than one quality of an article sold, the cheaper qualities have increased more rapidly in price than the more expensive. In some cases the Board of Trade gives an index number for the cheaper grades, but in most instances the index number is based upon the average prices for all qualities, thus showing the condition of the poorer classes as more favorable, of the middle class as less favorable, than they actually are.

A comparison of the prices of the cheaper cuts and grades of meat with those of the more expensive, illustrates this point. In England, foreign meats are less expensive than British meats, and since the war have increased in price much more rapidly than the latter. This is especially true of the cheaper cuts. The fact that part of the greater increase in price of foreign meats may be attributed to increased cost of ocean transportation, and part to increased demand from the army for the cheaper qualities and cuts, may serve to vitiate these conclusions as applied to normal times. The conclusion is that the increase in the cost of living since the war has fallen most heavily upon the poorer classes, on account of the greater increase in the cost of those articles which they consume, and because of their inability to meet the increase by variation in diet. Index numbers were constructed for various classes based upon the average prices of goods of the quality consumed by each class. A much greater increase than that indicated by the present index number occurred in the prices of the food which the poorer classes consumed, and a smaller increase for the wealthier classes. Index numbers are of value in showing the increase in the price of food for the country as a whole, as an average for the different classes of society, but cannot be accepted as representing at all closely the actual experience of any particular class of society, or of any particular individual. This is true also of the index numbers of the retail prices of food in the United States.

To be continued

MOBILIZING THE NATION'S CHILDREN FOR RED CROSS

ERNESTINE EVANS

American Red Cross

Twenty-two million American children went back to school in September. It was the end of a vacation not like any other summer of their lives. They returned to school with a spirit not like anything that the oldest of them can remember. There are—there cannot help being—soberer young faces bending over books in the little red school houses of the rural counties and the imposing stone technical high schools of the great cities, for this winter will find the fathers and brothers of many of these children in the cantonments of the National Army.

The old and the young are learning their new lessons together. In the school rooms children are begging daily for a chance to help, while teachers, with a new enthusiasm, are asking what they can teach to make the fittest citizens for the new America.

The Junior Red Cross is an answer to a great need. For months and months, in many places for three years, children have been at work. Sometimes in little scattered groups, the young girls watched their mothers sew for the Belgian refugees or knit for the poilus of France and the soldiers of Princess Pat, while they picked up the threads and undid the bastings, and held the yarn. Sometimes they made collections for the Christmas presents of "our little sisters and brothers over there."

Last year, all over the country, under the auspices of the Red Cross Chapters, or under the guidance of the schools, an outlet was found in work for the hundreds of thousands of busy helpful little fingers and overflowing hearts. What was done not only served as an expression of the impulse of thousands of children to help, but enormous boxes of supplies worth many thousands of dollars were dispatched abroad. They were of excellent workmanship, often equal to anything that the mothers had made. As a single instance nearly seven hundred hospital garments and bandages were made last spring by the girls of the Saunders Trade School in Yonkers, New York.

The New Junior Red Cross, based on that experience, now makes it possible for schools everywhere to undertake a share in the Red Cross task. Dr. H. N. McCracken, President of Vassar College, is devoting himself to the nation-wide adoption of the plan recently approved by

the Red Cross War Council. There is to be a Junior Red Cross membership open to all school children in schools, public, private, or parochial, in the United States, the Philippines, Alaska, and the Canal Zone.

After membership has been granted to a school, and a sum for dues equal to 25 cents for each pupil has been deposited with the local chapter School Fund, the school can fly a Red Cross flag, and its students each wear a Red Cross membership pin. Some discretion is allowed the local chapter school committee in administering this requirement, for it is not intended that any school shall be excluded if it finds the membership dues difficult to meet.

In general matters, of course, the school authorities will coöperate with the local Red Cross Chapter, but the principal of the school will be the Chairman of the Red Cross Auxiliary that has been formed in this manner. It will be left to the teachers and pupils to find the best way to work for the cause of the country's army and navy. The school must always do work that comes up to the Red Cross standard of acceptance. Whether the school is organized by grades or classes as a single group will be a matter for each school to decide.

Few people realize how much has already been done. In Chicago, where for a great many months patriotic spirit has been high and practical among the younger generation, the children last year made so many kinds of things that the result is a thrilling story. Only lately they sent 700 ration heaters in a set of comfort kits made by their mothers and aunts for the men in the Alpine trenches where coal was scarce. They have rolled newspapers, boiled them in paraffin, and cut them into candle lengths. For months they have been making little woollen afghan quilts for the refugee babies and toddlers of Belgium by knitting 5-inch squares and sewing these together, five one way, and six the other. These are not all they have knitted. Many a young girl who used to triumph at jack stones and jumping double Dutch has put away a skipping rope, and turned her nimble young fingers to work on gray and khaki mufflers for the bluejackets who are now training at the Great Lakes Naval Station for U-boat catching in the icy North Atlantic, or for the men at Fort Sheridan who are to go with the winter transports.

Last spring boys in one school in Evanston, Illinois, made hundreds of knitting needles and shellacked them. They also used their scroll saws to make bass wood splints—invaluable in French hospital work. Many of the smaller boys served as errand boys in the local Red Cross Chapter rooms. Older boys rolled bandages, and younger ones made fracture pillows and filled them with oakum moss.

One boys' school in the Adirondacks has begun to collect sphagnum moss for hospital pads, and their botany teacher has gone with them into the woods to identify this absorbent moss that has been used so often in British hospitals these last two years when cotton has been scarce and high. So far, much of the best work has been done in the domestic science departments of the high schools and grammar schools, where, under the supervision of the sewing teachers, girls who used to make endless princess slips and the like for themselves have learned to make fine seams and buttonholes and to cut their patterns accurately while manufacturing the bed shirts and pajamas for a base hospital in France.

Several New York schools made arrangements last spring for a special Red Cross sewing hour which took the last half hour of regular school time and a volunteer half hour of work on the part of teacher and pupils after dismissal time.

In Buffalo, New York, last spring, 1600 garments were made by the eighth and ninth grades. In Troy, the children earned a thousand dollars from entertainments, and promptly put it all into Red Cross supplies. One of the Troy Red Cross Chapter workers interested in membership afterwards said: "You have no idea how the children's enthusiasm made things easier for us. We came to parents to whom the Red Cross was no new thing. Their children had already made them members in spirit."

The new Junior membership will make it possible for the spirit of America's youngest and truly generous generation to make itself felt in the trenches. Their names and their messages will go in Christmas parcels, Red Cross made and Red Cross forwarded, and every message will be like a sprig of cheerful home holly, to the soldier who opens the package. Besides, garment making will serve a double purpose; it will help the Red Cross and stimulate a new spirit of workmanship. This will constitute vocational instruction of the highest order.

The 22,000,000 new workers for the American Red Cross are, after all, the members that count the most. They are the future of America.

Writing of the new Junior membership to Mr. MacCracken, President Wilson said:

If you have an opportunity will you bid the young people, whom you are assembling in this organization, a very warm welcome from me and give them a message of the heartiest good cheer as they enroll themselves among the servants of the nation and of the people everywhere who need help and comfort and encouragement?

I think they will all look back upon this work they are undertaking as a happy circumstance of their school days.

EXTENSION WORK IN MILL VILLAGES

MARY E. FRAYSER

Formerly State Agent for South Carolina

Home economics extension work, in operation in the cotton mill villages of South Carolina, parallels that of the home demonstration work in rural communities. The mill village instead of the county is the unit of organization, and the social worker is a community agent.

There are twenty cotton mill villages in South Carolina organized for community improvement, each working under the trained leadership of a local worker, and under the supervision of a State Agent for Mill Community Work. The work is home economics in the broadest sense, for it seeks to conserve the home through reaching and training the individuals who compose it.

The work began in 1915, under the supervision of Winthrop and Clemson Colleges and the United States Department of Agriculture. According to their coöperative agreement, \$100 per year was offered to each mill village which would bear the rest of the expense incident to the work, i.e., the balance of salary of the local worker, and the maintenance cost of the work, from \$800 to \$1200 per year. In nearly every instance this sum was given by the mill management. Sometimes individuals contributed. In two instances church guilds financed the undertaking. In one village the mill operatives formed an organization, and their dues paid a portion of the salary of the social worker.

In every instance the mill president has given quarters for the community work. This building is the center of the social life of the village. Whenever possible, it is the geographical as well as the spiritual center. Some of these buildings have been planned and erected for the purpose; others are just remodeled mill cottages. All contain a reading room, a room for in-door games, and a kitchen laboratory. Some also have a dining-room, a big auditorium, a dispensary, a dental room, a swimming pool, and shower baths.

However finely conceived the plan for mill village improvement may be, it is impossible to put it into operation without the interest, good will, and financial backing of the mill management. The mill people are not yet self-reliant enough to take action. They do not understand coöperation. The organization of mill villages in the South is still feudalistic. The state should, and soon will, incorporate the mill towns,

and the people will learn the principles of local self-government. This work is planned to make the people ready for that day and to help them to bring it to pass. It is constructive. Its purpose is to draw the people into the full current of life, to quicken their spirits, to make them feel that the opportunities of life are for them as well as for another, and lastly to give definite instruction which will increase the efficiency of the individual, and improve the status of the home.

It is possible to undertake work along a good many lines and still do it intensively, since each agent's activities are confined to one or two villages, and but little time is lost in getting to her group. Usually she lives among them. These young women work *with* the people and *not* *for* them. The agent is "a promoter," a promoter of activities that are worth while, and an inducer of the "get together" spirit. It is not easy to find the right woman for this work; but she can be found, and her enthusiasm and consecration grow as she stimulates growth in others.

School children, mill girls, and grown women are taught home making. This summer, at each of the centers, garden products were canned by the people under an expert. Much of the responsibility for community improvement may be thrown upon groups drawn together for such practical purposes. It is interesting to watch the awakening which attends the study of "What foods shall I give my family for breakfast, dinner, and supper today?" A new club member of one of these organizations was asked last year to submit a menu for Thanksgiving dinner. Her choice was candied yam, rice, creamed white potatoes, macaroni, a roast, and bread-pudding. Some one showed her the error of her way. But it is line upon line and precept upon precept!

Many of the adult members of mill villages are illiterate. Some of the "teen" age also are illiterate. Dr. Curry once asked a southern parent, "Why do you not send your child to school?" "We of the South are too poor to send our children to school," was the reply. "We of the South are too poor *not* to send our children to school," was the eminent educator's response.

If there is no night school in the community, the local agent coöperates with the school authorities and mill management to open one, and teaches in it two nights a week for six months a year. During the time she teaches, she is amenable to the school authorities. If there is a night school in operation when the organized work is begun, she lends it her moral support. She knows just how many children there are in her village who ought to be in the day school, but are not. She knows, too, the number eligible for night school.

The community agent organizes the people for recreation. A playground with some equipment is furnished by the mill management. Much that is fine results under the heads of health and team spirit. It is inspiring to see the play-grounds on a Saturday afternoon, or at night during the open season.

The community worker arranges night meetings at which topics of current interest are discussed by able speakers. People engaged in a part time process, endlessly repeated, requiring no initiative, are apt to think in a dull round. To get such interested in what others are thinking of is worth while. That many of the young men are going into the army and navy is serving to link the interest of the village folk with world wide affairs. The growth that came to some of those who went to Mexico was wonderful.

The cotton mill village people are "country people come to town." They sinned against the laws of sanitation in the open country, where, perhaps, they did not pay the price; but in a big group the individual or the other fellow must do so. In some counties in South Carolina, there are no county health officers. In cases of contagious or infectious diseases, there is no one to enforce isolation of the patient and family. The community agent gets the mill management to coöperate and wins the people's trust so that they will be guided by her. To show the mother what to do and how to do it, she must have had a course in home nursing.

There are clean-up days and lessons in civic responsibility taught through the children's organizations. There are Boy Scouts and Camp Fire Girls. The community agent does not lead all of these groups; she interests people capable of helping, and she develops leadership among the villagers.

In each of the twenty villages there was observance of Baby Week in May. In many instances there was examination of the children by competent physicians, and instruction of the mothers concerning their care. The community agent sought and won the coöperation of the women of her village, of the physicians and trained nurses necessary, and afterwards *followed up* the work.

A community laundry is a goal to be achieved. The mill women do the week's wash in the yards at all seasons, and boil the clothes in a black iron pot, set up on bricks, with fire beneath. Two mill presidents are considering the installation of laundry equipment, with the delivery of the clothes rough dry as a beginning.

The Community Fair is the community event of the village calendar. Specimens of work done in class and independently are exhibited. Household relics, flowers, vegetables, canned products, pickles, preserves, cakes, bread, homemade fireless cookers, iceless refrigerators, and baby beds, all these and much else are shown. Perhaps the quilts are most typical, so many there are, and of such varied patterns.

The interest of the day centers around the addresses and our-door athletics, and reaches its climax at the barbecue. A fine social spirit pervades the group. Everybody is happy. The community worker looks on with tired but grateful eyes. She knows that a little of her dream has come true.

Once a year the young women who are serving in the mill villages are called in to Winthrop College for a short course in social service. This class instruction and conference are invaluable. It is proof of the interest of the mill presidents that they permit these young women, engaged because they are trained workers, to come for two weeks without sacrifice of pay to secure further training.

EXTENSION WORK¹

HENRIETTA CALVIN

Specialist in Home Economics, U. S. Bureau of Education

The extension work as I see it over the country has made me feel there is something started that is the greatest educational effort that has ever been undertaken in the United States.

In the South there are nearly 1000 women who are devoting their entire attention to 15 southern states. They have in South Carolina 45 county agents. Sometimes there are three county agents in one county, headed by a supervisor; in some counties they have 85 per cent of all the white women in the county. A woman is a "home demonstrator" when she stays at home and demonstrates newer methods of doing her work. The county agent gives them topics and meets with them.

¹ Part of the discussion of Extension Work at the meeting of the American Home Economics Association held in connection with the N. E. A., Portland, Ore., July, 1917.

When those southern agents get together and tell how many homes have been screened, how they have campaigned for running water in the houses, for fireless cookers and iceless refrigerators, it seems to me that is a very wonderful work for anyone to enter. It is hard to find the right people for county agents. They must know their subject, must know the practical application of it; they must have the wisdom of a serpent and the harmlessness of a dove, be diplomatic as ambassadors, have unlimited health, and a willingness to give themselves body and soul. Besides these qualifications they should have a reasonable ability to speak to a group of people; and when they have all of these, the Extension Service is a wonderful opportunity for teaching.

County agents down South are brought into a county by club women, who camp on the trail of the county officers, and do not rest until they induce the county officers to put in a county agent, or wish they had.

The county agent generally has an office where she can meet people when they come to town, where they can bring their problems to her, or call on her for assistance; she meets with a new group of people every day, and plans demonstrations, receives reports of demonstrations, or renders any form of service possible.

THE HOME GUARD

FLORA G. ORR

University of Wisconsin, Class of 1916

"I don't like to leave home," said Sergeant Sugar doubtfully. "After all, they depend pretty much on me over here in the United States."

"Don't be a Slacker," admonished Lieutenant Lard.

"No time to argue, boys, forward march!" came the sharp command from General Wheat. "Off to France—but halt—what's the matter, Sergeant Sugar?"

"The children are so fond of me, General, I don't see how I can get away."

"Do you boys imagine for a minute that you are leaving the folks at home without any protection? How about it? Did you think that, Major Meat?"

"I didn't exactly think that, sir," came the cautious reply.

"Attention! Do you see that encampment to the right?" "Yes, sir!"

"That encampment is only one of several hundred squadrons which we are leaving here. Enlisted in the Home Defense League is General Milk, known throughout the world, probably one of the ablest military-food experts in the world, absolutely unsurpassed for efficiency. He is a man of somewhat your type, Major Meat.

"Then there is Colonel Corn. Colonel Corn is a fellow who has been hiding his light under a bushel. Ha! Ha! Yes, everybody in the South has known him for years, I know, but why his fame didn't spread up North I can't understand. I can tell you I have absolutely no compunctions about leaving home when I know I'm leaving a fellow like Corn to look after things.

"Now, just a word to you, Sergeant Sugar. Ever heard of your superior officer, Major Molasses?" "Yes, sir, but—"

"No 'but's', Sergeant. I want you to know that Major Molasses is a fellow who can fully as well look after the sweet teeth of American children as you can, Sergeant." "Yes, sir."

"After all the Syrups and Honey—and Molasses represents all of them—are just as sweet as sugar, Sergeant." "Yes, sir."

"Very good. Perhaps you'd like to hear the names of some of the other officers. Major Meat, you may be interested to know that Captain Cheese and Lieutenant Fish are ready to carry on quite a bit of the work which you must necessarily leave when you go to France.

"And then there's Sergeant Spud, who is going to be able to do a great deal this winter. He's what I call a good officer." "Yes, sir."

"There's a young Corporal in the Home Defense who'll do a great deal of what you might do if you could stay, Lieutenant Lard."

"Who is that, sir?"

"Corporal Cooking Oil. He's one of the Vegetable Fat family. I understand that your family used to consider yourselves somewhat better than the Vegetable Fats, eh Lard? Well, war is a great leveller. I imagine the young fellow will be giving you a good run for your money before long. Well, boys, you see you're not quite so important after all. And it's on to France, is it?" "It is indeed, sir!"

"To the front then! May fortune bless our voyage! Forward March!"

CONSERVATION IN THE LUNCH ROOM

In view of the wide spread interest in elimination of waste, and the necessity for some radical changes in food habits to meet the demands for conserving wheat, meats, fats, and sugar, the following report by Miss Maud Parsons, Director of the lunch room of the Household Science Department of the University of Illinois, is of interest:

We serve the noon meal to an average of 290 people, students and faculty, cafeteria style. The average check is 24 cents.

The prices are:

Meat, fish, and oyster dishes, 10-15 cents	Bread, 1 cent
Vegetables, 5 cents	Butter, 2 cents
Desserts, 5 and 7 cents	Oleo, 1 cent
Salads, 5 and 10 cents	Nut Butterine, 1 cent

It is interesting to note that the meatless day, Wednesday, has led to no diminution of attendance. In fact various people have remarked that the menus for that day were especially attractive. Fish has been served regularly on Tuesdays and Fridays. Oysters, chicken, or eggs have been served on other days, or with meat.

As regards the wheatless meal, the patrons have seemed to enjoy most a rye bread in which two parts of wheat flour has been replaced by rye, though corn bread, corn muffins, and fried mush are used very often.

Special care is taken to have all the food well cooked, and special care is given to the "substitutes."

The results from the standpoint of waste have been most gratifying. The total from 290 plates, exclusive of milk bottle tops, baked potato skins, or baked apple skins, is about 1 gallon per meal, or 1 spoonful per person.

It seems to us entirely possible to greatly reduce the amount of waste in hotels and restaurants if care and coöperation can be secured.

If all the world looks drear perhaps the meaning
Is that your windows need a little cleaning.

—*The Youth's Companion.*

FOR THE HOMEMAKER

THE TIME NECESSARY TO DO THE WORK IN A SEVEN ROOM HOUSE FOR A FAMILY OF THREE

MARY ROWE

Stevens Point Normal School, Wisconsin

The house is in a middle west town with a population of 18,000. The town has several large factories, a paper mill, and two large foundries; so there is much smoke. There are two railroads. The house, however, is seven blocks from the nearest foundry.

The street is paved with brick and is washed and swept clean every week. It is a busy street since it is the most direct road to the country and is near the business district. The neighborhood is one where nearly everyone owns his house and is proud of his well kept lawn. The spaces between houses are generous.

The house is well built. It is not, however, very conveniently arranged in rooms since the way from kitchen to front door is through dining room, living room, and hall, and the pantry and cup-boards are in the wrong places. There are a large living room, dining room, bedroom, bathroom, kitchen, hall, and laundry on the first floor, and two large bedrooms on the second floor.

The floors were all in 6 inch pine but they have been covered with maple on the first floor, while they are painted on the second. The windows are double sash, single pane, and equal to one-sixth the floor space. The wood work throughout the house is painted. The walls of kitchen, bath, and one bed room are painted; the others are paper covered.

The house is heated by a furnace using the hot air system, is equipped with gas stove, electric light, and city water, and has sewer connection. A cistern with pressure tank in basement and a coil in the furnace supply hot and cold soft water to the kitchen and bathroom in winter; in summer the water is heated with gas.

There are not many labor saving devices in the laundry—only a washing machine which the man of the house runs. An electric iron is used in the ironing.

A fireless cooker which uses hot soap stones is a time saver in the kitchen, and a small bread mixer is considered a necessity. All the baking is done in the house since they do not like baker's bread and other bakery products.

The furnishings of the house are such as may be easily cleaned, with very little upholstered furniture, and rugs covering the floors.

Through experience the mother learned many ways of saving time in the work. Dishes were wiped with paper (especially when greasy), sorted, and piled, then washed in hot suds, rinsed in boiling hot water, and drained. Very little wiping was necessary. Whenever possible the fireless cooker was used, especially for the sake of saving time in the watching necessary when the gas stove was used. It was even used to keep the bread sponge warm. The bread mixer was set in the open fireless cooker in which was one of the soapstones, heated just enough to keep the chamber about the right temperature. The top of the mixer was covered with a clean cloth and blanket and there it was left till the bread was light and there was no worry about drafts or over heating.

Time for housework

	HOURS	MINUTES	HOURS PER YEAR
I. Work done twice a year			
Maple floors redressed.....	4		
Woodwork and papered walls cleaned..	3		
Kitchen walls washed or painted.....	3		
Bathroom walls washed or painted.....	2		
Cleaning mattress and bedding.....	3		
Cleaning furniture.....	3		
Cleaning basement.....	3		
	<u>21</u>		42
II. Work done once a year			
Painting by man of house.....	3		
Painting by decorator.....	4		
Spring cleaning and packing of woolen and fur.....	4		
	<u>11</u>		11

	HOURS	MINUTES	HOURS PER YEAR
III. Work done once per month			
Rugs taken to yard and beaten and re-laid.....	2	15	
Windows cleaned on lower floor.....	2		
Windows cleaned on upper floor.....	2		
	<u>6</u>	<u>15</u>	75
IV. Work done once a week			
Floors and furniture dusted.....	1	30	
Rugs.....		40	
Kitchen cleaned.....		30	
Bathroom.....		30	
Bedroom changing beds, etc.		25	186
Laundry			
Sorting clothes.....		15	
Running machine.....	1		
Boiling, rinsing, hanging.....	1	30	
Cleaning laundry.....		20	
Ironing.....	2		
	<u>5</u>	<u>5</u>	264
V. Work done each day			
Cleaning, etc.			
Bed making, 3 beds.....		15	
Floor, dusting furniture.....		30	
Kitchen.....		15	
Bathroom.....		10	
	<u>1</u>	<u>10</u>	426
Cooking			
Breakfast (cereal cooked in fireless) . . .		20	
Dinner.....	1	15	
Supper.....		30	
	<u>2</u>	<u>5</u>	760
Baking			
Bread, twice a week, average daily.....		25	
Cake, cookies, desserts, etc. average daily.....		35	
	<u>1</u>	<u></u>	365
Dishes			
Supper and breakfast together.....		30	
Dinner, including baking dishes.....		40	
	<u>1</u>	<u>10</u>	426
Tending furnace ($\frac{1}{2}$ year) daily average..		10	
Pumping pressure tank.....		5	
		<u>15</u>	91
Total for year.....			2646

This is equal to an average of seven hours per day for the year.

The family consists of three adults. The man of the house is a retired farmer and uses his surplus energy in supplying motive power for the washing machine, pressure tank, and furnace, besides acting as scrub woman in cleaning windows, rugs, floors, and paint. He uses the method learned through years of successful farming in doing the work in this home. For example, he keeps account of the time necessary for work and much of the data used in this article comes from his time book. In spite of his seventy-six years he can do the work much more quickly than any charwoman we have ever tried. This is especially noticeable in cleaning windows and rugs.

The time given for the laundry work is as near an average as we could get, since in summer when more starched clothes were worn the ironing took longer than in the winter. The washing occupied the same amount of time, because the time and care needed for the woolen clothes worn in winter balanced the extra time used for the summer dresses. Underwear, bath towels, and such things are not ironed either summer or winter.

For a month in August a four year old granddaughter and her mother were added to the family. During this time the washing took about half an hour longer and the ironing an hour longer. This item would have been larger if the child had not worn dark colored rompers in her play in the morning and thus saved the multiplication of white petticoats and dresses.

For the rest of the work there was about half an hour for extra cooking and dishes and a few minutes for the extra bedroom.

A dozen years ago when the family took the house there was no furnace, gas, or electricity. The street was unpaved. There was a tub in the bathroom but no other fixtures. There was city water, and a small cistern which had a way of running over into the basement when full and of being empty except when there were frequent rains. The house drain emptied into a cesspool. The floors in the kitchen and dining room were maple, but the others were unfinished pine badly stained, and showing such cracks that they had to be covered. Paint was tried but after a few years maple floors replaced the pine.

The many automobiles passing stirred up such clouds of dust from the street that it was impossible to keep the house free from it. The kerosene lamps took about half an hour to clean each day. Since there was a base burner in the living room and a coal range in the kitchen much time was required for the carrying of coal in and ashes out, and for cleaning up the dust and litter made. This meant perhaps an hour a day.

Now a new and larger cistern with a pressure tank connected with the hot water tank provides hot soft water as well as cold in the bathroom and kitchen. This saves the time it used to take to keep the reservoir on the range full of soft water, and does away with the bother of pumping.

The house mother says that formerly it took one and one-half to two hours longer each day to do the work than now and it was not done so well.

THE NEW NOTE IN THE MAGAZINES AND BOOKS ON HOUSE FURNISHING

LEONA HOPE

University of Illinois

Much has been delightfully written about house furnishing, but it has dealt principally with the homes of the rich. We of moderate means have gazed with admiration, and possibly some envy, on pictures of this wealthy man's splendid Jacobean dining-room, on that one's stately Italian Renaissance library, and on another's exquisite Louis XV drawing-room. But, while the pictures and descriptions have pleased and entertained us, we have been left with a feeling of helplessness as far as aid in the furnishing of our own modest little home was concerned. Imitation is out of question. We can never hope to achieve the pictured beauty of these splendid shows of priceless furniture, tapestries, and rugs with our plain oak table, Morris chair, and drugget. Moreover, if imitation were possible, we should not care to avail ourselves of the opportunity. Imitation lacks the vital personality which makes one's home a part of one's self. Therefore, many of us have sighed and reconciled ourselves to things as they are, feeling that our humble surroundings were entirely unworthy the consideration of artist and interior decorator.

However, a change is taking place. Especially within the last year or two books and magazines on the subject of house-furnishing have ceased to be mere descriptions of Mr. So-and-So's palatial hall with its Florentine table and chairs and bit of French tapestry. Instead, the attention has been called to the beautiful balance with which the table, the chairs,

and the tapestry have been arranged. If there are any of us who do not know what balance is, we can go to the dictionary or to some book on design. At last we have something tangible. I find that my simple hall furniture can be arranged with just as perfect balance as the most rare and costly. I am pleased to discover that a large part of the beauty of the room is in the arrangement; that a furnished room is not merely a collection of furniture; that the house is a design, a design governed by the same principles as those which have made a painting by Raphael or a building like the Parthenon a joy for all time. Ignorance of the principles of design and of their application to house furnishing has been the cause of this helplessness among women who have been obliged to be their own interior decorators. And these women are the vast majority. I congratulate the woman who with fifty dollars can furnish her living-room with beautiful Colonial mahogany found in barns and in attics, here, there, and everywhere. We, the great majority, have not time to scour the country for "finds." And, if we had time, the craze for old furniture has left the country so completely scoured that our quest would probably be in vain. Of vastly greater importance to us is the recent article in one of our magazines which tells how to buy furniture; that good constructive design—fitness to purpose, excellent workmanship, fine proportion, good material—is the essential feature; that the purpose of decoration is to enhance, strengthen, or emphasize the construction, and that beyond this point decoration ceases to be desirable.

This new note in the articles and books on house furnishing will effect great changes in thousands of homes where imitation and the word of the salesman are at present the deciding factors. It gives us the fundamental principles which enable us to be the doctor rather than the apothecary. When I place my rugs parallel with the lines of the room I wish to do so because I thus consciously establish harmony, not because I have been told to do so—which I do not consider a reason at all. A wider dissemination of the knowledge of these fundamental principles of design to house-furnishing is the need of the small home. And a trend in this direction, it seems to me, is the most salient feature of the recent books and magazines which deal with this subject.

As to color, just at present many of us are living in "brown ambiguities." We are timid about using black and white, magenta, and peacock blue, which our color-loving friends are advising. We are more comfortable with a bromide than a horror. With black and white, magenta, and peacock blue most ravishingly beautiful results may be obtained,

no doubt; but they are achieved only by the person with trained taste and accurate eye. I know that in color rules are of no use except, to quote Ruskin, "as preventatives of gross mistakes." Yet I do hope that something a little more definite and fundamental in the application of color to our homes will be given us soon. *House and Garden* for October has given us "Thirty-six Facts About Color." To quote poor little Oliver, "More please."

A FEW BOOKS AND MAGAZINES SUGGESTING "THE REASON WHY"

Interior Decoration, Its Principles and Practices, Frank Alvah Parsons.
House Furnishing and Decoration, A. McClure and H. D. Eberlein.
The Decoration and Furnishing of Apartments, B. Russell Herts.
Planning and Furnishing the Home, Mary J. Quinn.

Interior Decoration, Amy L. Rolfe.

Costume Design and Home Planning, Estelle Piel Izor.

Good Taste in Home Furnishing, Maude Anne Sell and Henry Blackman Sell.

Inexpensive Furnishings in Good Taste, Ekin Wallick.

The New Interior, Hazel Adler.

Inside the House of Good Taste, Richardson Wright.

The House Beautiful. *House and Garden.* *The New Country Life.*

A MESSAGE FROM HENRY VAN DYKE

A RED CROSS CHRISTMAS TO THOSE WHO FEEL POOR

I write as a brother. We are a large family.

This world war made in Germany against which we are fighting has sent our incomes down and our expenses up.

The pinch hurts, but it is not going to kill us.

We still have enough and something to spare.

Though we feel poor, don't let us be impoverished by selfish fear.

Let us save in food, in service, in clothes, in luxuries, but not in money.

Let us use it by giving it to save the wounded, the suffering, our friends, our country.

Let us keep Christmas this year by keeping up the Red Cross.

Then it will be not a poor Christmas, but a rich Christmas in our hearts.

—*The Red Cross Bulletin.*

CHRISTMAS IN WARTIME

A wartime Christmas—what does it mean to us and our home? For three years we have been stirred by the needs of the world, by those who are perforce doing without the comforts, the necessities, the essentials of life. Every penny we have spent for ourselves has been questioned, we have wondered whether we had any right to give to our family or our friends or those not in dire need, whether we had any right to be happy.

Today it is harder than ever before to say "Merry Christmas," for the war has come home to us and we know even more vividly its terrible meaning. Yet the true spirit of Christmas is still here and must be fostered—the spirit of service and cheer, of thoughtfulness and consideration, of giving without asking return, even the spirit of joy.

Children should not be denied their Christmas gifts or the privilege of giving to others whom they love, but a gift of equal value should be sent abroad for each one given at home. Nor should grownups or children forget the home poor or their accustomed charities.

A worthwhile Christmas gift is one that helps someone else to give also. There are many who would gladly knit or do other work if they could afford the material. By giving this we double our gift.

When it comes to the Christmas celebration let us be sure that while we have the happiest time possible for the children we do it in such a way that it means no sacrifice for any one else. Let us take care in planning the dinner that we use only what is not needed abroad. Go without the pastry that takes the fat for which people are starving, choose fruits and nuts, and use those that involve the least amount of transportation. Have in place of the usual candies only those made with molasses or syrups, or sweetmeats from dates, raisins, figs, and nuts, dipped in chocolate if you choose, or use pop corn made into balls with a little boiled molasses or maple syrup. Use chestnuts or something beside white bread for stuffing the turkey or chicken or use a goose with its apple or onion dressing. With France calling for wheat we can hardly use it for Christmas when we know that we have already sent all our surplus, and that we must save the rest she needs.

Have plenty, but think back to your past dinners and see if you have not had too much. Break traditions if necessary, for the sake of others.

Above all let the children share in your planning. Any sacrifice they make should be their own, not forced upon them from above.

We ask for everyone Joy, Happiness, Peace. Let us claim them for our own households.

EDITORIAL

The Journal's Christmas List. The JOURNAL OF HOME ECONOMICS extends Christmas Greetings to its readers. It hopes that this December number, with its record of work done during the year, may be acceptable to you as in one sense a Christmas gift from the contributors who have given freely their time and experience that this information might be available for you. And the JOURNAL is so bold as to ask from you a Christmas gift for itself. Here is its Christmas list.

WANTED:

Some two page articles—bright, interesting, worth while.

Some four page articles—so well written that everyone wishes they were longer.

Many news items—short, telling just what every one wants to know.

SUBSCRIBERS—*10,000* of them.

Not for selfish reasons does the JOURNAL want all these gifts but that it may be of greater service to more people.

The War Emergency Food Survey. The United States Department of Agriculture is conducting a War Emergency Food Survey that should result in bringing together a mass of material, far more than has ever been collected, to show what people really do eat. We have been accustomed to speak of the "food habits" of a nation, but so far many of our judgments have been based on mere surmise. The data gathered in this survey in regard to food consumption and waste in families and in larger groups known as institutional households will change the more or less rough estimates, hitherto made, into conclusions based on concrete facts. All sections of the United States, rural and urban, all type of families, and all ranges of income are to be included.

Special blanks have been prepared on which may be recorded the food consumed and the refuse and waste for one week.

In order to have the whole country participate in this survey, the Heads of College Departments of Home Economics have been asked to help by placing these survey blanks. It is hoped to enlist the aid

also of the Extension Workers throughout the country and of Social Workers. Coöperation has been most freely pledged and an encouraging interest in the study expressed.

The number of studies received before the middle of November was 204 and the number promised 2091.

Anyone who will assist in carrying on the survey by placing either the family or group survey blanks may procure these blanks by writing to the Office of Home Economics, United States Department of Agriculture.

Home Canned Food and Botulism. The following statement prepared by the bacteriologists of the Bureau of Chemistry and the States Relations Service of the Department of Agriculture emphasizes over again the need of exactness in following directions, as well as the precautions that should be taken to insure the use of only food that is in good condition. When this care is taken, there should be no need for fear.

There is no danger that the type of food poisoning known as "Botulism" will result from eating fruits or vegetables which have been canned by any of the methods recommended by the United States Department of Agriculture, provided such directions have been followed carefully. Of course, extreme care should be taken to ascertain before eating canned goods of any kind whether they are in good condition, and if they have spoiled they should not be consumed.

In case of any doubt as to whether the contents of a particular can have spoiled, the safest plan is to throw it away, although all danger of Botulism may be avoided by boiling the contents of the can for a few minutes, since the *Bacillus botulinus* and the toxin or poison which it produces are killed by such treatment. No canned food of any kind which shows any signs of spoilage should ever be eaten. In the cold pack method of canning given out by the Department of Agriculture, only fresh vegetables are recommended for canning, and sterilization is accomplished by the following processes: cleansing, blanching, cold dipping, packing in clean, hot jars, adding boiling water, sealing immediately, and then sterilizing the sealed jars at a minimum temperature of 212° F. for one to four hours, according to the character of the material. Since the spores of *B. botulinus* are killed by heating for one hour at 175° F. (according to Jordan's "Bacteriology" and other recognized textbooks) there is no reason to believe that the *botulinus* organism will survive such treatment.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

The Charity Visitor: a Handbook for Beginners. By AMELIA SEARS. Chicago School of Civics and Philanthropy, new and rev. ed., 1917, pp. 69. Paper, \$.50. By mail of the Journal \$.54.

"The Charity Visitor," as Miss Sears states in the preface, "is based on the verbal and written instructions relative to the technique of investigations which for years have been current in the offices of the United Charities of Chicago and which are elaborated and assembled here, at the friendly suggestion of the directors of the Chicago School of Civics and Philanthropy, primarily for the use of students." It is doubtful if a home economist should do much investigation when working independently of a social organization and without access to definite information from some outside source concerning the situation in a family, but there is no doubt that a home economist should be familiar with the nature of information available from any well-organized social agency, with the purpose and reason for investigation as interpreted by the case-worker, and with the form of office record keeping which has proved most satisfactory through many years' use. This information is clearly and interestingly presented in "The Charity Visitor," and the entire book should prove valuable to the home economist interested in dovetailing her efforts with those of other social workers, and also in profiting by their experience.

Practical, helpful material on the family budget is so limited in amount that home economics teachers as well as social workers should welcome the suggestions and data contained in the chapter Estimating the Family Budget, prepared by Miss Florence

Nesbitt, Field Supervisor of the Aid to Mothers Department in the Juvenile Court of Cook County, Illinois. This is a summary of conclusions based on her long experience in not only estimating family budgets but also supervising them and testing their accuracy and value in actual use. Miss Nesbitt's experience is a unique one, and although her discussion in this instance is very closely connected with charitable relief giving, much of what she says is equally valid with reference to the budget of the self-supporting family.

One of her important points is that the figures in a family budget should be definite and concrete and always interpreted according to their buying power in the particular locality.

In the presentation of her schedule Miss Nesbitt therefore gives a brief descriptive summary of what would be considered by almost everyone as the minimum normal standard of living with respect to food, housing, clothing, household supplies, and the other customary budget divisions, with specific figures of costs for each of these divisions, and detailed estimates of the items.

Miss Nesbitt objects to the use of the unit system in estimating food costs, especially for young children. "While this cost of \$2.10 per man per week can be used as a measuring unit for the members of the family who can be given the same kind of food eaten by the man, it cannot be so used in calculating the cost of food for small children. The infant may require only 1200 calories, or one-third the amount of food of the working man. But it cannot be fed at one-third the cost, without endangering its health, development, and probably its life." Her budget estimates for the

children in the family are reckoned with full consideration of each child as a child and with the particular needs of his age and period of development. This method seems especially necessary in estimating minimum budgets, and makes the figures especially valuable.

With the higher food costs there is increasing interest in inexpensive but adequate menu planning, and Miss Nesbitt's food instructions for charity visitors will prove suggestive and helpful as well as her budget instructions.

"The Charity Visitor," contains much of value and interest to the home economics worker, and makes one wish there were more books available which discuss method and technique from the standpoint of helping the individual family as well as from the standpoint of class room instruction.

EMMA A. WINSLOW.

Training the Children. By JAMES L. HUGHES. New York: A. S. Barnes Company, 1917, pp. 148. \$.60. By mail of the Journal, \$.66.

Dr. Hughes, who has been for forty years chief inspector (the Canadian equivalent of superintendent) of schools in Toronto has high claim on the attention of educators; the excellence of the Toronto schools is said to be largely due to his wise guiding hand.

The experience of forty years covers many changes in educational theory, and it is evident that the author of this little book has had an open mind and is conversant with the later as well as the earlier views. This is shown in even the chapter headings.

Dr. Hughes believes in the new training based on the self activity of the child, and in giving due heed to his right to development along positive rather than negative lines; the book is largely occupied with a contrast of the new with the old method of training.

To the American parent and educator the argument seems at times, as in the frequent allusion to "child quelling," strangely out of date, an attack on views already dead and buried. For a generation the American

child has been little, some think too little, controlled or "thwarted" in its development. It would seem that our Canadian neighbors are being urged to abandon a system so long unused in our country that its advantages, especially for the elders, are remembered with regret and its vices almost forgotten. "Have I not also some rights in the world?" asks the irate parent, a question which the educator always ignores.

Dr. Hughes' contention that the boy from the farm does so well in life because his elders are too busy to bother with him is hardly convincing. Is not the real reason that he is being taught by inexorable nature? If the tool is left out, it rusts; if the cow is not milked, she goes dry. It is nature's training by rewards and punishments which in our blundering way we try to imitate in our educational systems.

Does not the "let alone" policy fall sadly short of the mark? Do we not need to teach more and more wisely than ever, and not from cowardice or ignorance desert youth which so bitterly needs guidance?

Dr. Hughes' book is full of the wisdom drawn from a long experience; still the actual child and his inevitable clash with grown up interests and plans in home and school, does not live in these pages. When will an educator make such a contribution to our knowledge of childhood as did Mrs. Bacon in "The Madness of Philip?" Perhaps we ask too much.

MARY HINMAN ABEL.

1000 Things Mothers Should Know. By MAE SAVELL CROY. New York: G. P. Putnam's Sons, 1917, pp. 296. \$1.50. By mail of the Journal, \$1.60.

This book carries out the suggestion of the title. It is made up of paragraphs dealing with clothing (particularly in relation to children), the nursery, medical care, health rules, hygiene and sick room suggestions, food, amusements, and a few other topics.

It does not undertake to give consecutive discussion of the topics.

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NEWS FROM THE FIELD

Vocational Adviser. Miss Katherine F. Ball has been appointed Vocational Adviser for Women in the University of Minnesota. The office was created in June, 1917 and Miss Ball is the first person to receive the appointment.

In creating the office the Board of Regents defined the scope of the work as follows:

"1 To make a study of vocations open to college women, the qualifications required, the opportunities, the remuneration, the conditions of work.

2. To study the qualifications, interests, and preparation of women students upon entering and during their course in the University.

3. To confer personally with students about their plans and to advise them in their choice of studies in preparation for their vocations.

4. In every way possible (by lectures, public conferences, and otherwise), to promote among women students seriousness of purpose and an intelligent appreciation of their duties and responsibilities as University graduates."

Miss Ball is a graduate of Wellesley College, and has done graduate work in the University of California and at Teachers College, Columbia University. In the latter institution she received her master's degree and professional diploma as Adviser to Women. She has taught in the High School in Plainfield, N. J., where in collaboration with Miss Miriam E. West she developed a special course in applied arithmetic for girls in the household arts.

The Consumers' League wants everyone to know and share the relief and joy which Monday morning, October first brought to thousands of girls and women in the restaurants of our first and second class cities.

The new law, that the American Home

Economics Association helped to support, puts an end to the unlimited work-day, seven days a week, and to dangerous night work.

On October first, these workers faced their task with new zest and faith, assured of a nine hour day, a weekly day of rest, and no work after 10 p.m. Effort now must be directed toward the enforcement of the law, and also toward the development of public opinion strong enough to check the attempts to break down the safeguards of the labor law under plea of war emergency.

Department of Superintendence, N. E. A. On account of crowded conditions in Atlanta, due to the establishment there of one of the National Army cantonments and other military camps, the place of meeting of the Department of Superintendence of the N. E. A. has been changed from that city to Atlantic City. The date of the meeting is February 25 to March 2, 1918.

It has been suggested that, instead of the single session usually held by the American Home Economics Association in connection with this department, the deferred annual meeting of our Association be held at this time. This is under consideration by the Council.

Further announcement will be made in the January issue.

Massachusetts Institute of Technology. Miss Amy Walker, M.A., Smith College, has been appointed research assistant in the chemistry of foods, under the Ellen H. Richards Fund, for the year 1917-18. The work will be carried on under the direction of Professor A. G. Woodman, and it is proposed to study chemical changes, with special reference to the nitrogen compounds, which take place when fish decomposes before and after heating at relatively high temperatures.

The American Association for the Advancement of Science holds its annual meeting in Pittsburgh, Pa., December 28, 1917 to January 2, 1918.

The Society of American Bacteriologists will meet in Washington, D. C., December 27 to 29.

HOME ECONOMICS LECTURE ON THE STANDARD OF LIVING IN JAPAN

The International Committee on Home Economics of the American Home Economics Association is glad to announce that Professor K. Morimoto, Ph.D., of the Department of Political Economy in the Imperial University at Sapporo, Japan, will be available to give lectures on a few dates this fall and winter on the "Standard of Living in Japan, with suggestions for reducing the High Cost of Living in America." The lecture is illustrated with colored slides. Professor Morimoto is taking his Doctor's degree from Johns Hopkins University, and during the two years—1905-07, delivered several hundred lectures before American audiences. He has during the past two years been commissioned by the Japanese Government to study the standard of living in the United States, the results of which are shortly to be published in Japan. He is soon to publish in this country in the Johns Hopkins University Studies, "The Standard of Living in Japan."

Professor Morimoto is also gathering information regarding Home Economics Education in this country in connection with a plan for establishing a college of home economics in Japan, and this inquiry will take him to several of our leading colleges of home economics. The International Committee bespeaks the cordial coöperation of American Institutions which Professor Morimoto may find it possible to visit.

Professor Morimoto is giving some of his free time to these lectures, and is devoting the proceeds to the foundation of the Clark Memorial Church at the University of Sapporo, in memory of Doctor William S. Clark, formerly President of the Massachusetts Agricultural College, who went to Japan at the request of the Japanese Government in 1876, to establish the Sapporo Agricultural College, now part of the Imperial University.

The fee for the lecture is set at \$15 to \$25, as local conditions may make possible; because of his plan of visiting certain institutions on his transcontinental trip there need in many cases be no additional expense if it proves feasible to arrange the lecture; in other cases, some travelling expense may be involved.

Correspondence regarding dates and fees should be had directly with Professor Morimoto, addressing him at 1313 North Patterson Park Avenue, Baltimore, Maryland.

(Signed) INTERNATIONAL COMMITTEE ON TEACHING OF HOME ECONOMICS.

BENJAMIN R. ANDREWS, Chairman

Teachers College, New York City

HELEN W. ATWATER

MARY SCHENCK WOOLMAN

CATHARINE J. MACKAY

President American Home Economics Association

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